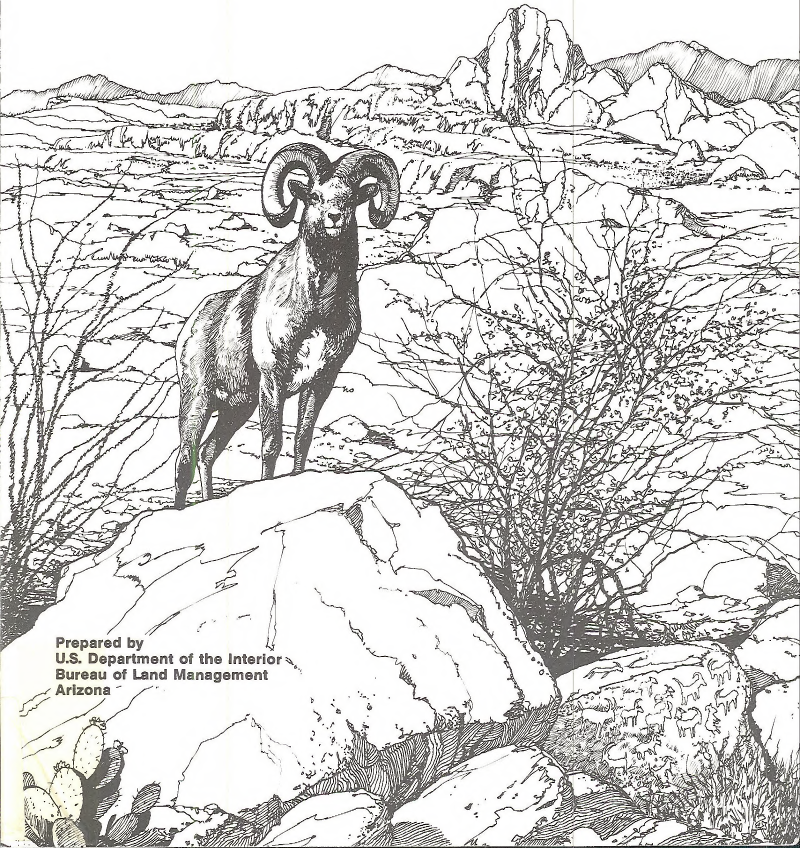
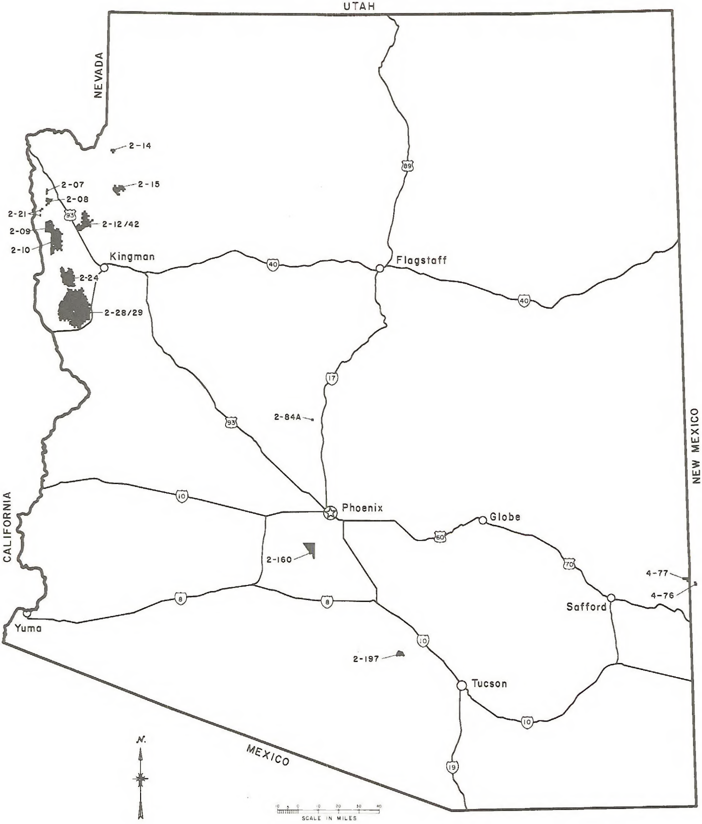
BLM LIBRARY
88014740

ARIZONA MOHAVE

Draft Wilderness Environmental Impact Statement



Prepared by
U.S. Department of the Interior
Bureau of Land Management
Arizona



ARIZONA MOHAVE WILDERNESS

PHOENIX DISTRICT WSA's

2-07	Van Deeman
2-08	Mockingbird
2-09	Black Mountains N.
2-10	Burns Spring
2-12/42	Mount Tipton
2-14	Grapevine Wash
2-15	Grand Wash Cliffs
2-21	Mount Davis
2-24	Mount Nutt
2-28/29	Warm Springs
2-84A	South Bradshaws East
2-160	Sierra Estrella
2-197	Ragged Top

SAFFORD DISTRICT WSA's

4-76	Apache Box
4-77	Hoverrocker

JUNE 1987

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Phoenix District Office
2015 West Deer Valley Road
Phoenix, Arizona 85027

TAKE PRIDE IN AMERICA

IN REPLY REFER TO

September 1987

Here, for your review and comment, is the draft environmental impact statement (EIS) for the wilderness designation of wilderness study areas in the Phoenix and Safford Districts of Arizona. Ten WSAs are in the Kingman Resource Area in northwest Arizona, two are in the Phoenix Resource Area, one in the Lower Gila Resource Area and two in the Safford District in southeastern Arizona (See Map on back of front cover).

The Arizona Mohave Wilderness EIS is based on information from Bureau of Land Management planning documents, inventory records, and other sources, including federal, state, and local agencies, private organizations, and interested individuals. The purpose of the statement is to disclose in advance the probable environmental consequences of the proposed action and its alternatives, and to assure that these factors are considered along with other considerations in the decisionmaking process.

We would appreciate receiving your comments on the draft statement. The comment period will run until January 8, 1988. Formal public hearings will be held in Kingman, Phoenix, and Clifton, Arizona, and Silver City, New Mexico on the following dates:

7:00 P.M., Tuesday, November 17, 1987 -Conference Room, Courthouse Annex,
5th and Leonard, Clifton, Arizona

7:00 P.M., Wednesday, November 18, Meeting Room, Red Barn Steakhouse,
708 Silver Heights Blvd., Silver City, New Mexico

7:00 P.M., Tuesday, December 1, 1987 - Kingman Resource Area Office
2475 Beverly Avenue, Kingman, Arizona

7:00 P.M., Wednesday, December 2, 1987 - Maricopa Board of Supervisors
Auditorium, 205 West Jefferson, Phoenix, Arizona

Comments received after the official period will be considered in the later decisionmaking process, even though they may be too late to be included in the final environmental impact statement.

Please send your comments to: EIS Team Leader, Bureau of Land Management,
Phoenix District Office, 2015 W. Deer Valley Rd.
Phoenix, Arizona 85027

Sincerely,

Henri R Bisson

Henri R. Bisson
District Manager

17622709

ID 88014740

BLM LIBRARY

QH
76.5
.A6
P563
1987

DRAFT
ENVIRONMENTAL IMPACT STATEMENT

PROPOSED WILDERNESS PROGRAM
for the
ARIZONA MOHAVE WILDERNESS AREAS

Greenlee, Maricopa, Mohave, Pima, Pinal
and Yavapai Counties, Arizona and Grant County, New Mexico

BLM LIBRARY

Prepared by

THE DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
PHOENIX AND SAFFORD DISTRICTS

BLM LIBRARY
SC-324A, BLDG. 50
DENVER FEDERAL CENTER
P. O. BOX 25047
DENVER, CO 80225-0047

STATE DIRECTOR
ARIZONA STATE OFFICE

This draft environmental impact statement analyzes the environmental consequences of the proposed wilderness designation in the Phoenix and Safford Districts of Arizona. The Proposed Action recommends the addition of 202,210 acres to the National Wilderness Preservation System and the return of 74,254 acres to other resource uses. Alternatives in addition to the Proposed Action include All Wilderness, Enhanced Wilderness and No Wilderness. This draft EIS includes a comparison of the alternatives and actions anticipated in each WSA, description of the existing environment and an analysis of the environmental impacts of the Proposed Action and alternatives.

For further information contact Bill Carter, EIS team leader, Phoenix District Office, Bureau of Land Management, 2015 West Deer Valley Road, Phoenix, Arizona 85027 or call (602) 863-4464 or FTS 764-0501.

Comments on the Draft EIS are due: **January 8, 1988**

SUMMARY

SUMMARY

PURPOSE AND NEED

The Bureau of Land Management (BLM) is under congressional mandate to review the public lands for roadless areas of 5,000 acres or more that have wilderness character and by October 1991 to recommend to td Districts. The WSAs are in Greenlee, Maricopa, Mohave, Pima and Yavapai counties, Arizona, and Grant County, New Mexico.

The wilderness review includes the following steps:

- an inventory phase in which roadless areas were evaluated for size, naturalness and outstanding opportunities for solitude and primitive recreation,
- a study phase in which WSAs suitable for wilderness designation were determined and
- a reporting phase in which suitability recommendations are forwarded to Congress through the Secretary of the Interior and the President.

SCOPING (ISSUE IDENTIFICATION)

To help identify and summarize significant issues related to wilderness management, the BLM held a series of public meetings to identify public concerns. The BLM also evaluated public comments received during the wilderness inventory phase and planning period and BLM specialists applied their professional judgment in analyzing issues. The issue identification process brought out the significant wilderness-related issues addressed in the draft EIS.

ALTERNATIVES

The alternatives assessed in this draft EIS include: (1) the *No Wilderness/No Action* alternatives for each WSA, (2) the *All Wilderness* alternatives for each WSA, (3) *Partial Wilderness* alternatives for five WSAs and (4) *Enhanced Wilderness* alternatives for two WSAs.

The *Proposed Action* was developed after the BLM's review of the public scoping comments, inventory data and management concerns and management actions anticipated for each WSA. The *Proposed Action* recommends as suitable for wilderness designation all or portions of six WSAs totalling 202,210 acres. The remaining 74,254 acres in WSAs would be recommended to be returned to other multiple uses.

ENVIRONMENTAL CONSEQUENCES

The BLM only addressed impacts to those resources that would be significantly impacted by either wilderness designation or nondesignation. The following resources were identified as being significantly impacted.

WILDERNESS VALUES

Wilderness designation would ensure the continued preservation and enhancement of wilderness values because designation would preclude some mining and all other types of development. Nondesignation would result in the impairment of some wilderness values because varying levels of development would be allowed in those areas not designated.

MINERAL DEVELOPMENT

Wilderness designation would cause adverse impacts to mineral exploration and development. Mining restrictions in designated areas would impose regulations on development of mineral resources. All lands in WSAs not designated wilderness would remain open for mineral leasing and appropriation under the general mining laws and regulations.

RECREATION USE

Wilderness designation would eliminate motorized recreation activity, affecting the availability of off-road vehicle (ORV) recreation and shifting ORV users to adjacent public lands. Elimination of motorized recreation activity within the wilderness area would be accompanied by some increase in nonmotorized recreation. Overall, wilderness designation would increase annual recreation visitor use in some WSAs and decrease use in other WSAs, with a decrease in total because most existing recreation use is motorized.

CULTURAL RESOURCES

Wilderness designation would generally benefit cultural resources in the WSAs by preventing new development. Such development improves access to cultural sites and increases visitation, often resulting in artifact collection and other vandalism.

WILDLIFE HABITAT AND WILDLIFE-SENSITIVE SPECIES

Wilderness designation would generally protect wildlife habitat (crucial bighorn sheep habitat and desert tortoise habitat) from long-term cumulative habitat losses that could result from the development anticipated in WSAs not designated wilderness.

LAND USES

Wilderness designation would prevent granting of rights-of-way in wilderness areas.

VEGETATIVE SALES

The sale of of Mohave yucca would be prevented in harvest areas designated wilderness.

MITIGATING MEASURES

The BLM's *Wilderness Management Policy* provides direction to mitigate the impacts of wilderness designation on the following activities: (1) access to state or private inholdings, (2) valid mining claims, (3) the existing private rights that accompany such claims and (4) the maintenance of existing livestock and wildlife facilities. Many of these potential conflicts would remain. Specific management actions dealing with these conflicts will be addressed in wilderness management plans developed for each designated wilderness area.

Specific laws and regulations require the BLM to protect threatened and endangered plants and animals along with cultural and visual resources. The BLM is also required to manage the public lands to prevent unnecessary resource degradation. In the event of nondesignation, the BLM has a variety of management tools available to preserve wilderness and other resource values.

Crucial desert bighorn sheep habitat is found in all WSAs in the Black Mountains and within the Ragged Top and Sierra Estrella WSAs in southern Arizona.

TABLE OF CONTENTS

CHAPTER 1: PURPOSE AND NEED

Introduction 1
Purpose and Need for Action 1
Scoping 1
Environmental Issue Identification 2
Issues Considered and Analyzed but No Significant Impacts Identified 3
Issues Considered but not Analyzed 3
Selection of Alternatives 4
Alternatives Considered but not Recommended for Detailed Study 4

CHAPTER 2: ALTERNATIVES INCLUDING THE PROPOSED ACTION

Introduction 7
Description of Alternatives 7
- Van Deeman 9
- Mockingbird 13
- Black Mountains North 15
- Burns Spring 19
- Mount Tipton 22
- Grapevine Wash 27
- Grand Wash Cliffs 27
- Mount Davis 31
- Mount Nutt 32
- Warm Springs 40
- South Bradshaws East 46
- Sierra Estrella 46
- Ragged Top 49
- Apache Box 51
- Hoverrocker 51

CHAPTER 3: AFFECTED ENVIRONMENT

Introduction 69
- Van Deeman 69
- Mockingbird 70
- Black Mountains North 77
- Burns Spring 80
- Mount Tipton 85
- Grapevine Wash 89
- Grand Wash Cliffs 91
- Mount Davis 95
- Mount Nutt 97
- Warm Springs 103
- South Bradshaws East 110
- Sierra Estrella 111
- Ragged Top 115
- Apache Box 119
- Hoverrocker 120

CHAPTER 4: ENVIRONMENTAL CONSEQUENCES

Introduction 123
Basic Assumptions 123
- Van Deeman 124
- Mockingbird 127
- Black Mountains North 130
- Burns Spring 134
- Mount Tipton 140
- Grapevine Wash 145
- Grand Wash Cliffs 148
- Mount Davis 151
- Mount Nutt 153
- Warm Springs 161
- South Bradshaws East 167
- Sierra Estrella 169
- Ragged Top 171
- Apache Box 174
- Hoverrocker 175

CHAPTER 5: CONSULTATION AND COORDINATION

Introduction 177
Scoping and Public Participation 177
List of Agencies, Organizations, Indian Tribes and Elected Officials to Whom Copies of the Draft Will be Sent 177
List of Preparers 179

GLOSSARY 183

REFERENCES 193

INDEX 195

TABLES

CHAPTER 1

1-1 Wilderness Study Areas 1
1-2 Environmental Issues 2

CHAPTER 2

2-1 WSA Alternatives Analyzed 8
2-2 Recreation Visitor Use By Alternative 11
2-3 Existing Wildlife Developments and Locations 12
2-4 Proposed Wildlife Developments 14
2-5 WSA Areas Suitable for Mohave Yucca Harvest 28
2-6 Summary of Impacts 52

CHAPTER 3

3-1 Mineral Potential 72
3-2 Special Status Wildlife 73
3-3 Crucial Habitat and Populations 75
3-4 Protected Plants 75

MAPS

CHAPTER 2

Van Deeman (Proposed Action and All Wilderness) .. 10
Mockingbird (Proposed Action and All Wilderness) ... 10
Black Mountains North (Proposed Action) 16
Black Mountains North (All and No Wilderness) 18
Burns Spring (Proposed Action) 16
Burns Spring (All and No Wilderness) 18
Mount Tipton (Proposed Action) 23
Mount Tipton (All and No Wilderness) 25
Grapevine Wash (Proposed Action and All Wilderness) 29
Grand Wash Cliffs (Proposed Action and All Wilderness) 30
Mount Davis (Proposed Action and All Wilderness) .. 10
Mount Nutt (Proposed Action) 33
Mount Nutt (All and No Wilderness) 36
Mount Nutt (Enhanced Wilderness) 38
Warm Springs (Proposed Action) 41
Warm Springs (All and No Wilderness) 44
Warm Springs (Enhanced Wilderness) 45
South Bradshaws East (Proposed Action and All Wilderness) 29
Sierra Estrella (Proposed Action and No Wilderness) 47
Ragged Top (Proposed Action and All Wilderness) ... 50
Apache Box (Proposed Action and All Wilderness) ... 50
Hoverrocker (Proposed Action and All Wilderness) ... 50

CHAPTER 3

MINERAL POTENTIAL

- Van Deeman 71
- Mockingbird 71
- Black Mountains North 79
- Burns Spring 79
- Mount Tipton 87
- Grapevine Wash 90
- Grand Wash Cliffs 94
- Mount Davis 71
- Mount Nutt 100
- Warm Springs 106
- South Bradshaws East 90
- Sierra Estrella 113
- Ragged Top 117
- Apache Box 117
- Hoverrocker 117

CRUCIAL HABITAT

- Van Deeman 74
- Mockingbird 74
- Black Mountains North 81
- Burns Spring 81
- Grapevine Wash 92
- Mount Davis 74
- Mount Nutt 101
- Warm Springs 108
- Sierra Estrella 114
- Ragged Top 118

Chapter 1

PURPOSE AND NEED

CHAPTER 1

PURPOSE AND NEED

INTRODUCTION

The *Arizona Mohave Wilderness Draft Environmental Impact Statement* (DEIS) examines the environmental consequences (impacts) that would occur to the resources and uses of 15 wilderness study areas (WSAs) (Table 1-1) in the Phoenix and Safford districts of the Bureau of Land Management (BLM) under two or more wilderness management alternatives. The document also describes in detail the resources present in each of the 15 WSAs.

TABLE 1-1
WILDERNESS STUDY AREAS

Bureau of Land Management
Phoenix and Safford Districts, Arizona

WSAs	Unit Number	Acreage
PHOENIX DISTRICT		
Van Deeman *	02-07	1,510
Mockingbird *	02-08	5,815
Black Mountains North	02-09	19,900
Burns Spring	02-10	30,600
Mount Tipton	02-12/42	34,060
Grapevine Wash *	02-14	2,200
Grand Wash Cliffs	02-15	12,176
Mount Davis *	02-21	2,560
Mount Nutt	02-24	29,190
Warm Springs	02-28/29	114,800
South Bradshaws East *	02-84A	640
Sierra Estrella	02-160	14,830
Ragged Top *	02-197	4,460
SAFFORD DISTRICT		
Apache Box *	04-76	932
Hoverrocker *	04-77	2,791

* These WSAs are being studied under Section 202 of the Federal Land Policy and Management Act of 1976.

Source: BLM District Files.

The *Arizona Mohave Wilderness* DEIS contains only the preliminary recommendations as to whether all or portions of each of the 15 WSAs are suitable or nonsuitable for inclusion into the *National Wilderness Preservation System* (NWPS). Only Congress can designate an area as wilderness. Congress has further retained the right to release certain areas covered by Section 603 of the *Federal Land Policy Management Act* (FLPMA) of 1976, whereas the areas covered by Section 202 of FLPMA that are not recommended for wilderness designation may be returned to other forms of management after the final EIS is filed and released to the public.

PURPOSE AND NEED FOR ACTION

This wilderness DEIS was prepared to analyze the effects of designation or nondesignation as wilderness of 276,464 acres of public land in 15 WSAs. In compliance with the *National Environmental Policy Act* (NEPA), this DEIS fully analyzes the environmental effects of implementing reasonable wilderness management alternatives for each WSA.

The DEIS responds to Sections 603(a) and 202 of FLPMA of 1976. These sections of FLPMA made wilderness preservation one of the BLM's multiple use mandates and made the preservation of wilderness values one of the resources the BLM considers in multiple use planning. FLPMA directed the BLM to inventory, study and then report to Congress—through the Secretary of the Interior and the President—those public lands suitable for inclusion in the NWPS. FLPMA requires the Secretary of the Interior to report wilderness recommendations to the President by October 21, 1991 (FLPMA, Section 603(a)). The President must report final recommendations to Congress within two years (October 21, 1993). Congress has no time limit for acting upon the President's recommendations.

Seven of these WSAs are being evaluated under the requirements of Section 603(a) of FLPMA. Section 202 of FLPMA also provided the BLM with an opportunity to evaluate other areas for wilderness quality which were not mandated under Section 603. The BLM under Section 202 of FLPMA has chosen to study another eight areas as listed on Table 1-1. Thus, a total of 15 WSAs are included in this document.

The *Proposed Action* represents the BLM's preliminary recommendations for these 15 WSAs. These recommendations are subject to change during public and administrative review of this document.

SCOPING (ISSUE IDENTIFICATION)

Scoping served to identify the significant environmental issues to be analyzed in this DEIS and eliminated insignificant issues from detailed study. The significant environmental issues have been incorporated into a range of alternatives for each WSA and the impacts of implementing such alternatives are analyzed in this DEIS. A description of all phases of the scoping process is in Chapter 5 (*Consultation and Coordination*) of this DEIS.

ENVIRONMENTAL ISSUE IDENTIFICATION

The BLM's DEIS team used the scoping process to identify and address public and management concerns associated with the WSAs considered for wilderness designation. The team then defined which concerns were significant and would be analyzed in the DEIS. Table 1-2 lists the issues which were identified as significant and which issues pertain to which WSAs. They are:

Effects on Wilderness Values. The wilderness values of naturalness, solitude, primitive recreation and various special values could benefit from wilderness designation. The same values may be adversely affected by uses and actions that would occur should the WSAs not be designated wilderness. The impacts of wilderness designation and nondesignation on wilderness values are an issue for analysis in all 15 WSAs addressed in this DEIS.

TABLE 1-2
ENVIRONMENTAL ISSUES
Wilderness Study Areas
Bureau of Land Management, Arizona

WSA	Wilderness Values	Mineral Development	Lands	Range-land	Recreation	Wildlife	Vegetative Sales	Cultural
Van Deeman (AZ-020-007)	X	X	O	O	X	X	O	X
Mockingbird (AZ-020-008)	X	X	O	X	X	X	O	X
Black Mountains North (AZ-020-009)	X	X	O	X	X	X	O	X
Burns Spring (AZ-020-010)	X	X	O	X	X	X	O	X
Mount Tipton (AZ-020-012/042)	X	X	X	X	X	X	X	X
Grapevine Wash (AZ-020-014)	X	X	O	O	X	X	O	X
Grand Wash Cliffs (AZ-020-015)	X	X	O	X	X	X	O	X
Mount Davis (AZ-020-021)	X	X	O	O	X	X	O	X
Mount Nutt (AZ-020-024)	X	X	X	X	X	X	X	X
Warm Springs (AZ-020-028/029)	X	X	O	X	X	X	X	X
South Bradshaws East (AZ-020-84A)	X	X	O	O	X	X	O	X
Sierra Estrella (AZ-020-160)	X	X	X	O	X	X	O	X
Ragged Top (AZ-020-197)	X	X	O	X	X	X	O	X
Apache Box (AZ-040-76)	X	X	O	O	X	O	O	X
Hoverrocker AZ-040-77)	X	O	O	O	X	O	O	X
TOTAL UNITS AFFECTED BY ISSUE:	15	14	3	8	15	13	3	15

Source: Phoenix and Safford District Files

Effects on the Level of Mineral Development. Wilderness designation would affect the development of mineral resources by eliminating designated lands from mineral entry and prohibiting mineral leasing and disposal of mineral materials. However, there are extensive private mineral estate holdings in six WSAs. In the past land transactions, BLM acquired the surface rights. The subsurface owner "reserved the rights to the oil, gas, coal and other minerals, together with the right to prospect for, mine and remove the same." Development of existing mining claims within designated wilderness areas could be affected by wilderness management restrictions although mineral rights valid upon wilderness designation would be allowed to be exercised. The effect of wilderness designation on the development of undiscovered and discovered mineral resources is an issue in 14 WSAs.

Effects on the Level of Recreation Activities. Wilderness designation would eliminate the use of motorized vehicles in designated areas. Eliminating this use would affect the availability of opportunities for motorized recreation and would shift to adjacent lands the motorized use now in the WSAs. The effect of wilderness designation on motorized and nonmotorized recreation use is an issue in all 15 WSAs.

Effects on Cultural Resources. Certain cultural sites in the WSAs are considered eligible for listing on the *National Register of Historic Places*. Wilderness designation would close the area to motorized vehicle use, thus protecting the sites from vehicle damage. The impact of wilderness designation on the eligible cultural resource sites in all WSAs is an issue in this DEIS.

Effects on the Amount of Crucial Wildlife and Riparian Habitats. Wilderness designation would protect riparian, desert tortoise and crucial bighorn sheep habitats by reducing surface-disturbing activities and eliminating ORV use in those habitats. The effect of wilderness designation on riparian, desert tortoise and crucial bighorn habitats is an issue only in the 13 WSAs that contain these habitats.

Effects on Vegetative Sales. Wilderness designation would prevent the sale of Mohave yucca in the designated areas. Preventing the Mohave yucca sales would shift the sale areas to other sites. The effect of wilderness designation on Mohave yucca sales is an issue in three WSAs.

ISSUES CONSIDERED AND ANALYZED BUT NO SIGNIFICANT IMPACTS IDENTIFIED

Rangeland Management Developments and Maintenance. The analysis identified no significant impacts from wilderness designation on the construction of new rangeland developments or the maintenance of existing developments. The grandfathered rights under the *Wilderness Management Policy* allow for the maintenance of existing and construction of new nonimpairing rangeland developments.

Wildlife Management Actions. The analysis identified no significant impacts from wilderness designation on the construction of new wildlife water developments or the maintenance of existing developments. The *Wilderness Management Policy* (111, D2) allows for the construction of wildlife developments necessary for the continued existence or welfare of wildlife living in wilderness.

ISSUES CONSIDERED BUT NOT ANALYZED

The following issues were identified in scoping but were not selected for detailed analysis in the DEIS. The reasons for setting each of the issues aside are discussed under the heading for each issue.

Effects on Livestock Operations. Concerns were raised that livestock operators could be required to modify their operations within designated wilderness areas in a manner that would have significant adverse economic impact on their business. This issue was considered but dropped because the BLM's *Wilderness Management Policy* provides for possible fluctuations of livestock numbers and changes in the kind or class of livestock or seasons of use, if warranted through monitoring data and if these adjustments did not impair wilderness characteristics. However, designation is expected to cause closer regulation of range improvement maintenance or practices in WSAs designated as wilderness. Although the management practices of livestock operators in the designated wilderness areas would be closely regulated, the operators would still be allowed to maintain range improvements in a practical and reasonable manner as necessary to support existing livestock operations. Therefore, the effect of wilderness designation on livestock operations is not an issue in this DEIS.

Effects on Wild Horse and Burro Capture. Concerns were raised regarding the effect of wilderness designation on the Wild Horse and Burro Capture program in five WSAs. The methods used for burro roundup and capture (during July and August when recreation use is lowest) are the most practical and economic available for the areas under study. No change in the capture methods would be implemented under wilderness management. The capture methods are detailed for the WSAs in Chapter 3 (see Black Mountains North, Burns Spring, Mount Tipton, Mount Nutt and Warm Springs). Therefore, the effect of wilderness designation on wild horse and burro capture is not an issue in this DEIS.

Effects on Air Quality Classification. Concerns were raised regarding the effect of wilderness designation on existing air quality classifications. Since the wilderness management policy states that the BLM will manage all wilderness areas to comply with the air quality classification for that specific area, wilderness designation or nondesignation would not recommend reclassification of air quality standards for wilderness areas from the existing Class II to the more restrictive Class I. Therefore, air quality is not an issue in this DEIS.

Effects on Water Quality. Water quality is not expected to be impacted by wilderness designation or nondesignation because most actions that affect water quality, such as livestock grazing, would not be affected by wilderness designation. Other activities such as mineral development affect such small areas that their influence on water quality is negligible. Federal and state laws affecting water quality management require mandatory compliance regardless of designation or nondesignation. Therefore, water quality is not an issue in this DEIS.

Impacts on Wildlife. An issue dealing with nonsensitive wildlife populations and habitats was considered but not included in this DEIS. Based on development projections in these areas, little or no change in wildlife populations (other than bighorn sheep and desert tortoise) or habitat is anticipated with wilderness designation or nondesignation in any of the 15 WSAs addressed in this DEIS.

Effects on Soil Erosion. Consultation with the Soil Conservation Service has indicated that none of the WSAs has soil erosion problems. While wilderness designation would restrict surface-disturbing activities, anticipated surface-disturbing activities within the 14 WSAs would not accelerate soil erosion. Therefore, the effect of wilderness designation on soil erosion is not an issue in this DEIS.

Social Elements. Social attitudes and values are not expected to be impacted by the designation or nondesignation of wilderness; therefore, social elements are not an issue in this DEIS.

Military Overflights. There will be no specific prohibition of overflights above designated wilderness areas by aircraft on essential military training missions, in accordance with BLM policy. Where low overflights would be expected to become a problem, wilderness management plans would provide for liaison between the BLM and the military in efforts to resolve overflight problems. Therefore, military overflights are not considered to be an issue in this DEIS.

Effects on Economic Conditions. Wilderness designation would preclude a number of mining operations in all 15 WSAs addressed in this DEIS. The economic impact of precluding these mining operations may affect local communities to some degree but is not expected to significantly impact the diverse economy of the economic study area. Designation would result in a small loss of oil and gas lease revenues collected by the BLM. However, this loss is not expected to significantly impact those collections because the loss amounts to less than one percent of the BLM's total oil and gas lease revenues. No loss is expected from oil and gas production revenues because none of the 15 WSAs contain proven reserves. Therefore, the economic impact resulting from wilderness designation or nondesignation is not an issue in any of the 15 WSAs addressed in this DEIS.

SELECTION OF ALTERNATIVES

The *All Wilderness* alternative represents the maximum possible WSA acreage that could be recommended as suitable for wilderness designation. Partial wilderness alternatives make suitable or nonsuitable recommendations ranging between the *All Wilderness* and *No Wilderness* alternatives. The Proposed Action recommends *All Wilderness* for one, *No Wilderness* for nine and *Partial Wilderness* for five.

Table 2-2 shows WSA acreage recommended suitable for wilderness designation under each alternative.

ALTERNATIVES CONSIDERED BUT NOT RECOMMENDED FOR DETAILED STUDY

The alternatives selected for analysis in the EIS were the only ones considered during the selection of alternatives.

Chapter 2

ALTERNATIVES

CHAPTER 2

ALTERNATIVES INCLUDING THE PROPOSED ACTION

INTRODUCTION

This chapter describes in detail the alternatives selected for analysis in this draft environmental impact statement (DEIS). To provide the public and the decisionmaker with a convenient tool for comparing impacts, defining issues and reaching conclusions, the chapter ends with a summary for each WSA comparing the effects on resources that would result from implementing each alternative.

DESCRIPTION OF THE ALTERNATIVES

This section provides a description of the alternatives for each WSA being considered in this DEIS (Table 2-1). First is a general description of the alternatives, followed by the management actions or uses anticipated to occur within the next 25 years.

Since the pattern of future management actions and uses in each WSA cannot be predicted with certainty, assumptions are made to allow impacts to be analyzed. These assumptions are the basis of the management actions and uses developed for each WSA and alternative. The management actions are not management proposals, but are believed to represent probable patterns of activities which might occur as a result of wilderness designation or the Table 2-1 areas being released from further wilderness study. Management actions and uses for each WSA and alternative are described for minerals, land uses, rangeland management, recreation uses and wildlife.

The following are assumptions used by resource specialists in identifying the management actions and uses:

MINERALS ACTIONS

- Upon designation, the lands would be withdrawn from all forms of appropriation under the mining laws and manual leasing laws subject to valid existing rights.
- Valid existing rights would allow mining activities in a designated wilderness to continue.
- All mineral development projections are based on past production activities, current exploration activities and on geological inference.
- Mineral discoveries would have to be proven valid as of the date of designation (assumed to be October 1991) or the mining locations would be excluded by wilderness designation.
- Upon designation, permits would not be issued for the removal of minerals commonly known as common varieties under the *Materials Act of July 31, 1947* as amended and supplemented.

All the mineral exploration and development programs are described for each alternative. Mining Cost Service, Western Mine Engineering, 1987, describes mine types and sizes as follows:

- The typical underground mine described in this DEIS would use the shrinkage mining method with railroad ore cars moved by a battery-powered locomotive.

Surface development to support underground mining would include —

- mine plant and buildings;
- equipment maintenance and retrograde yard;
- engineering and management facilities;
- mill plant and tailings thickener;
- .625 mile of tailings-conveyance system and
- a tailings disposal area.

The typical small underground mining operation would —

- process up to 100 ore tons per day;
- employ up to 12 people;
- have up to four building structures and
- disturb approximately five surface acres (unless otherwise identified) plus the access.

The typical moderate (medium) underground mining operation would —

- process up to 500 to 600 ore tons per day;
- employ up to 30 people;
- have up to six building structures and
- disturb 50 surface acres plus the access.

The typical large underground mining operation would —

- process more than 600 ton of ore per day;
- employ more than 30 people;
- have more than six building structures and
- disturb 100 acres plus the access.

- Surface mine disturbances will cover larger areas by the nature of the mining technique. The typical surface mine (Su) described in this DEIS would employ the open-pit mining method, using drills, transferral loaders and trucks.

Surface-disturbing activity related to open-pit mining includes —

- mine plant including engineering and management facilities;
- equipment maintenance and retrograde yard;
- haulage routes;
- mill plant including tailings thickener;
- .625 mile of tailings conveyance system and
- a tailings disposal area.

The typical small surface mining operation would —

- process up to 500 ore tons per day;
- employ up to 12 people;

TABLE 2-1
WSA ALTERNATIVE ANALYZED
Bureau of Land Management, Arizona

WSA	Alternative	Acres Suitable	Acres NonSuitable
Van Deeman (AZ-020-07)	Proposed Action (No Wilderness)	0	1,510
	All Wilderness	1,510	0
Mockingbird (AZ-020-08)	Proposed Action (No Wilderness)	0	5,815
	All Wilderness	5,815	0
Black Mountains North (AZ-020-09)	Proposed Action (Partial Wilderness)	18,400	1,500
	All Wilderness	19,900	0
	No Wilderness	0	19,900
Burns Spring (AZ-020-10)	Proposed Action (Partial Wilderness)[1]	23,000	7,600
	All Wilderness	30,600	0
	No Wilderness	0	30,600
Mount Tipton (AZ-020-12/42)	Proposed Action (Partial Wilderness)	28,170	5,890
	All Wilderness	34,060	0
	No Wilderness	0	34,060
Grapevine Wash (AZ-020-14)	Proposed Action (No Wilderness)	0	2,200
	All Wilderness	2,200	0
Grand Wash Cliffs (AZ-020-15)	Proposed Action (No Wilderness)	0	12,176
	All Wilderness	12,176	0
Mount Davis (AZ-020-21)	Proposed Action (No Wilderness)	0	2,560
	All Wilderness	2,560	0
Mount Nutt (AZ-020-24)	Proposed Action (Partial Wilderness)1	27,210	1,980
	All Wilderness	29,190	0
	Enhanced Wilderness	27,860	1,980
	No Wilderness	0	29,190
Warm Springs (AZ-020-28/29)	Proposed Action (Partial Wilderness)	90,600	24,200
	All Wilderness	114,800	0
	Enhanced Wilderness	91,185	24,200
	No Wilderness	0	114,800
South Bradshaws East (AZ-020-84A)	Proposed Action (No Wilderness)	0	640
	All Wilderness	640	0
Sierra Estrella (AZ-020-160)	Proposed Action (All Wilderness)	14,830	0
	No Wilderness	0	14,830
Ragged Top (AZ-020-197)	Proposed Action (No Wilderness)	0	4,460
	All Wilderness	4,460	0
Apache Box (AZ-040-76)	Proposed Action (No Wilderness)	0	932
	All Wilderness	932	0
Hoverrocker (AZ-040-77)	Proposed Action (No Wilderness)	0	2,791
	All Wilderness	2,791	0

1. This figure represents original Section 603 (WSA) acreage minus the nonsuitable acreage, plus all inholdings totally within the original WSA boundaries that have been acquired (640 acres in Burns Spring; 457 acres in Mount Nutt).

Source: Phoenix District and Safford District Files.

— have up to six building structures and
— cause up to 50 acres of surface disturbance plus the access needed.

The typical moderate surface mining operation would —

— process up to 1,000 ore tons per day;
— employ up to 40 people;
— have up to seven building structures and
— disturb up to 300 surface acres (unless otherwise identified) plus the access needed.

The typical large surface mining operation would —

— process more than 1,000 ore tons per day;
— employ more than 40 people;
— have in excess of 10 buildings and
— disturb 600 surface acres (unless otherwise identified) plus the access needed.

The above figures will be used in the analyses unless otherwise noted.

Saleable minerals are found in 12 of the WSAs but none have been sold and there is no local demand for the minerals.

No oil or gas development is anticipated in any of the WSAs addressed in this EIS.

LANDS MANAGEMENT ACTIONS

Alternatives describing rights-of-way are based on probable occurrences.

RANGELAND MANAGEMENT ACTIONS

Development and maintenance of range improvements in the WSAs would be allowed if the improvements meet the nonimpairment criteria identified in the *Wilderness Management Policy*.

Increases in livestock use would be allowed when multiple-use monitoring data clearly indicate that additional forage is available and can be grazed without impairment of wilderness values or damage to other multiple-use resources or values. Fluctuations of livestock number, changes in kind or class of livestock or in seasons of use would be possible on all allotments (WO IM No. 87-142; 87-100 and AZ IM No. 87-55).

Vehicle use would be subject to the restrictions of the "minimum tool" policy. The occasional use of motorized equipment would be permitted for construction and maintenance of certain improvements. However, the customary use of motorized vehicles for transportation to check on livestock and water facilities, haul salt, conduct monitoring studies and supervise grazing use would be prohibited or severly restricted (AZ-87-288; and BLM Manual 8560).

RECREATION USE ACTIONS

Visitor use in the WSAs is projected 25 years into the future and all estimates are based on Arizona's projected population increases over that period. It is assumed that recreation use would increase proportionately with the state's population increase. No recreational facilities exist or are planned in any of the WSAs addressed in this DEIS.

Vehicles are used to travel to all WSAs (and within some) and are currently a part of all recreation use.

CULTURAL RESOURCES MANAGEMENT

Cultural resource inventories and mitigation are undertaken on public lands before authorizing surface-disturbing activities, such as construction within utility corridors, livestock and wildlife projects or mining operations. Mitigating measures would be proposed to preserve scientific information and other cultural values in an area of possible surface disturbance.

WILDLIFE MANAGEMENT ACTIONS

Endangered and threatened wildlife and plant species, both federal- and state-listed, and their habitats would be adequately considered and subject to reasonable research and management actions as deemed necessary by state and federal agencies.

Development and maintenance of wildlife habitat improvements in any of the WSAs would be allowed if the improvements meet the nonimpairment criteria identified in the *Wilderness Management Policy*.

Motorized vehicle use, including helicopters, would be subject to the "minimum tool" policy. The customary use of motorized vehicles, including helicopters, would be restricted for assessing wildlife habitat improvement projects for design, monitoring and maintenance, as well as conducting inventories and monitoring of threatened and endangered species.

Helicopter flyover of the wildlife projects would be used on the average of one day every year to determine maintenance needs. A helicopter would land near the site on an average of once every two years. Equipment to repair the project would be taken in by helicopter or vehicle once every two years.

Annually a big game survey is conducted within the WSA by helicopter or fixed wing aircraft by the Arizona Game and Fish Department.

Following are descriptions of expected actions and uses under each alternative for each WSA.

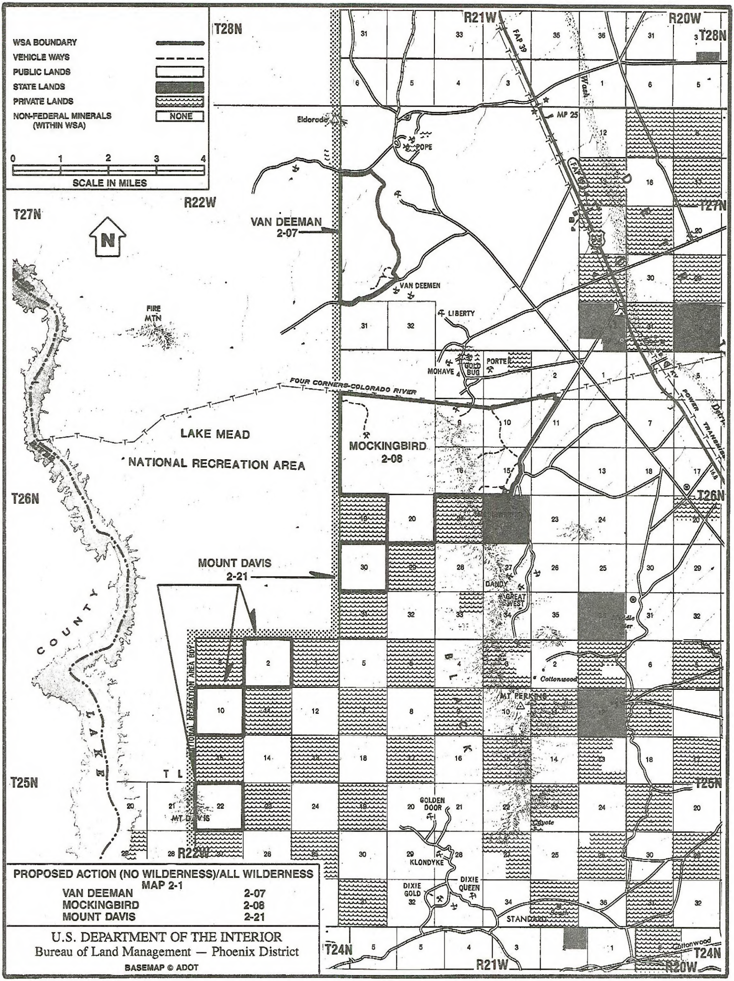
VAN DEEMAN WSA
(AZ-02-07)

Proposed Action/No Wilderness Alternative (Map 2-1)

The *Proposed Action/No Wilderness* alternative for the Van Deeman WSA would return 1,510 acres to other multiple use management uses. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

It is anticipated that seven exploration programs in the area would produce four medium open-pit mines (disturbing 1,200 acres) and one large open-pit mine (disturbing 600 acres) inside and adjacent to the area. The new mines in sections 18, 19, 29 and 30 would have a cumulative staff of approximately 140 people. Five miles of road construction would disturb approximately 17 acres.



PROPOSED ACTION (NO WILDERNESS)/ALL WILDERNESS
MAP 2-1

VAN DEEMAN	2-07
MOCKINGBIRD	2-08
MOUNT DAVIS	2-21

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

RECREATION USE ACTIONS

Overall visitor use would increase slightly to 50 VDY from the present 40 VDY. Off-road motorized vehicle use (recreational 4-wheeling and hunter access) would be allowed on the entire 1,510 acres and would double from 20 to 40 VDY. Nonmotorized primitive and unconfined types of recreation such as day hiking would decrease from 20 VDY to 10 VDY. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

Maintenance of one existing pothole development is planned. Currently a 4-WD vehicle, helicopter and foot travel are used to access this project (see Table 2-3).

Vehicle access to the existing Van Deeman Tank starts on a vehicle way at Van Deeman Mine (T. 27 N., R. 21 W., section 29) and continues northwest almost up to the tank in section 30. A total of 1 mile of vehicle access is used in the WSA.

TABLE 2-2
RECREATION VISITOR USE BY ALTERNATIVE

Bureau of Land Management, Arizona

	CURRENT USE VISITOR DAYS/YEAR			VISITOR DAYS/YEAR	
WSA	**Motorized**	**Non-motorized**	**ALTERNATIVE**	**Motorized**	**Non-motorized**
Van Deeman			Proposed Action (No Wilderness)	40	10
(AZ-020-007)	20	20	All Wilderness	0	30
Mockingbird			Proposed Action (No Wilderness)	80	10
(AZ-020-008)	60	20	All Wilderness	0	30
Black Mountains North			Proposed Action (Partial Wild.)	350	400
(AZ-020-009)	200	150	All Wilderness	0	400
			No Wilderness	450	200
Burns Spring			Proposed Action (Partial Wild.)	200	450
(AZ-020-010)	100	200	All Wilderness	0	450
			No Wilderness	200	270
Mount Tipton			Proposed Action (Partial Wild.)	50	800
(AZ-020-012/042)	100	400	All Wilderness	0	800
			No Wilderness	150	450
Grapevine Wash			Proposed Action (No Wilderness)	0	10
(AZ-020-014)	0	10	All Wilderness	0	15
Grand Wash Cliffs			Proposed Action (No Wilderness)	120	40
(AZ-020-015)	80	30	All Wilderness	0	80
Mount Davis			Proposed Action (No Wilderness)	15	40
(AZ-020-021)	0	30	All Wilderness	0	40
Mount Nutt			Proposed Action (Partial Wild.)	100	2,800
(AZ-020-024)	1,200	1,800	All Wilderness	0	2,800
			Enhanced Wilderness	100	3,000
			No Wilderness	1,600	2,200
Warm Springs			Proposed Action (Partial Wild.)	450	700
(AZ-020-028/029)	600	250	All Wilderness	0	700
			Enhanced Wilderness	450	700
			No Wilderness	900	400
South Bradshaws East			Proposed Action (No Wilderness)	25	75
(AZ-020-84A)	0	100	All Wilderness	0	150
Sierra Estrella			Proposed Action (All Wilderness)	0	1,000
(AZ-020-160)	1,200	700	No Wilderness	1,500	500
Ragged Top			Proposed Action (No Wilderness)	1,250	500
(AZ-020-197)	700	700	All Wilderness	0	1,750
Apache Box			Proposed Action (No Wilderness)	0	60
(AZ-040-76)	0	50	All Wilderness	0	150
Hoverrocker			Proposed Action (No Wilderness)	0	50
(AZ-040-77)	0	25	All Wilderness	0	100

Source: Phoenix District and Safford District Files

TABLE 2-3
EXISTING WILDLIFE DEVELOPMENTS AND LOCATIONS

Bureau of Land Management, Arizona

WSA	Project Name	Project Location	Project Type	Access Needs 4-WD Vehicle	Heli-copter	Foot
Van Deeman 2-07	Van Deeman Tank	T.27N., R.21W., Sec. 30 NE	Pothole	X	X	X
Mockingbird 2-08	No Existing Projects					
Black Mtns. North 2-09	Lower Lost Cabin Spring	T.24N., R.21W., Sec. 27	Spring		X	X
	Master Spring	T.24N., R.21W., Sec. 21	Spring		X	X
	Pass Tank No. 3	T.24N., R.21W., Sec. 22	Pothole		X	X
	Pass Tank No. 2 & 4	T.24N., R.21W., Sec. 27	Pothole		X	X
Burns Spring 2-10	Chalk Spring	T.23N., R.21W., Sec. 36	Spring	X	X	X
	Calles Spring	T.23N., R.21W., Sec. 27	Spring	X	X	
	Hidden Spring	T.22N., R.21W., Sec. 1	Spring		X	X
	Lost Cabin No. 1	T.23N., R.20W., Sec. 18 SE	Catchment	X	X	
Mount Tipton 2-12/42	No Existing Projects					
Grapevine Wash 2-14	No Existing Projects					
Grand Wash Cliffs 2-15	Music Mountains Catchment No. 8	T.27N., R.15W., Sec. 8 NESW	Catchment	X	X	X
Mount Davis 2-21	Mount Davis Catchment	T.25N., R.22W., Sec. 22 NWNW	Catchment	X	X	
Mount Nutt 2-24	Battleship Spring	T.20N., R.20W., Sec. 34 SESE	Spring		X	X
	Upper Twin Spring	T.20N., R.19W., Sec. 19 SWNE	Spring	X	X	X
	Trough Spring	T.20N., R.19W., Sec. 6 SWSE	Spring	X	X	X
	WL Spring	T.20N., R.20W., Sec. 13 SESW	Spring		Abandoned	
	Ram Spring	T.21N., R.19W., Sec. 31	Spring	X	X	X
	Slurry Tank	T.21N., R.20W., Sec. 34 SWNE	Pothole	X	X	X
	Grapevine Tank	T.20N., R.20W., Sec. 26	Pothole		Abandoned	
	Raptor Tank	T.19N., R.19W., Sec. 4 SWSE	Pothole		Abandoned	
	Hidden Tank	T.19N., R.19W., Sec. 5 NWSW	Pothole		X	X
Warm Spring 2-28/29	Sheep Spring	T.18N., R.19W., Sec. 31 NESW	Spring	X	X	X
	McHeffy Spring	T.18N., R.20W., Sec. 27 SWSE	Spring	X	X	
	Columbine Spring	T.17N., R.19W., Sec. 6 NE	Spring	X	X	X
	Metate Spring	T.17N., R.19W., Sec. 6 NENW	Spring	X	X	X
	Cross Seep	T.17N., R.20W., Sec. 2 SWSW	Spring		X	X
	Antelope Spring	T.18N., R.19W., Sec. 9 NWNE	Spring	X	X	X
	Tipperary Tank	T.18N., R.19W., Sec. 19 NENW	Pothole		X	X
	Drill Hole Tank	T.17N., R.19W., Sec. 14 SW	Pothole		X	X
	Black Mesa Tank	T.17N., R.18W., Sec. 16	Pothole		X	X
S. Bradshaws, East 2-84A	No Existing Projects					
Sierra Estrella 2-160	Butterfield Tank	T.2S., R.1E., Sec. 26 NESE	Pothole	X	X	X
	Montezuma Tank	T.3S., R.1E., Sec. 1 SESE	Pothole	X	X	X
Ragged Top 2-197	Ragged Top Tank	T.11S. R.8E., Sec. 25 NENW	Pothole	X		X
Apache Box 4-76	No Existing Projects					
Hoverrocker 4-77	No Existing Projects					

Source: Phoenix and Safford District Files

A desert tortoise survey and subsequent monitoring (foot travel) of tortoise populations within the WSA are anticipated.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-1)

The *All Wilderness* alternative for the Van Deeman WSA would designate 1,510 acres as wilderness. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

One medium and one large open-pit mine would be developed including three miles of road construction (inside the WSA in sections 19 and 30). The three miles of new road construction would disturb approximately five acres. The two mines within the WSA would disturb about 900 acres and would employ approximately 65 miners and operators.

RECREATION USE ACTIONS

Wilderness designation would close 1,510 acres to ORV use. Visitor use (all nonmotorized) would decrease to 30 VDY from the present 40. Some overnight backpacking would result from the nonmotorized recreational use of the contiguous and much larger Lake Mead National Recreational Area meeting the criteria of the *Wilderness Act*, between this unit and Lake Mohave. Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as those planned under *No Wilderness* with the exception that 4-WD vehicle access would occur only during project maintenance activities that required hauling of heavy materials.

No other resource actions or uses are anticipated.

MOCKINGBIRD WSA

(AZ-020-08)

Proposed Action/No Wilderness Alternative (Map 2-1)

The *Proposed Action/No Wilderness* alternative for the Mockingbird WSA would return 5,815 acres to other multiple use management uses. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

Five expected exploration programs would produce one large open-pit mine in section 15 and one medium sized open-pit mine in section 7. The total disturbance (910 acres) would involve seven miles of road, 600 acres in the large open-pit and 300 acres in the medium sized mine. The mines would have approximately 70 employees.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. An Allotment Management Plan (AMP) has been developed for Unit A of the Big Ranch Allotment. One range improvement including a well, a 2,000-gallon steel storage tank and .9 miles of pipeline exist within the WSA. The AMP provides for continued maintenance of the existing project on the WSA periphery. Although access is provided outside the WSA boundary, mechanical equipment is required for annual maintenance within the WSA.

RECREATION USE ACTIONS

Overall visitor use would increase slightly to 90 VDY from the present 80. Off-road vehicle use within the WSA would be allowed on the entire 5,815 acres. Motorized visitor use (recreational 4-wheeling and hunter access) would be 80 VDY, having increased slightly from 60 VDY. Nonmotorized primitive and unconfined types of recreation use, such as hiking, would decrease from 20 VDY to 10 VDY. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The development of one additional water development (Fire Mountain Catchment) is anticipated (Table 2-4). Once this project is developed, access by helicopter and foot would be needed.

A desert tortoise survey and subsequent monitoring of tortoise populations within the WSA are expected. Survey and monitoring would be conducted on foot.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-1)

The *All Wilderness* alternative for the Mockingbird WSA would designate 5,815 acres as wilderness. Under this alternative the following actions and uses are anticipated.

TABLE 2-4
PROPOSED WILDLIFE WATER DEVELOPMENT

Bureau of Land Management, Arizona

				Access Needs		
WSA	Project Name	Project Location	Project Type	4-WD Vehicle	Heli-copter	Foot
Van Deeman 2-07	No Planned Projects					
Mockingbird 2-08	Fire Mountain Catchment	T.26N., R.21W., Sec. 7 SW	Catchment		X	X
Black Mtns. North 2-09	Crystal Water Development No. 1	(To Be Determined)	Unknown		X	X
	Crystal Water Development No. 2	(To Be Determined)	Unknown		X	X
Burns Spring 2-10	Crystal Water Development No. 3	(To Be Determined)	Unknown		X	X
	Crystal Water Development No. 4	(To Be Determined)	Unknown		X	X
Mount Tipton 2-12/42	Crystal Water Development No. 10	(To Be Determined)	Unknown	X	X	X
	Crystal Water Development No. 11	(To Be Determined)	Unknown	X	X	X
	Mount Tipton Catchment	T.25N., R.18W., Sec. 28 NESE	Catchment		X	X
	Upper Indian Spring	T.25N., R.18W., Sec. 16 NENW	Spring	X	X	X
Grapevine Wash 2-14	No Planned Projects					
Grand Wash Cliffs 2-15	Slickrock Catchment	T.27N., R.16W., Sec. 13 NWNW	Catchment	X	X	X
Mount Davis 2-21	Crystal Water Development No. 5	(To Be Determined)	Unknown		X	X
Mount Nutt 2-24	Crystal Water Development No. 6	(To Be Determined)	Unknown		X	X
	Crystal Water Development No. 7	(To Be Determined)	Unknown		X	X
	Cottonwood Tanks	T.20N., R.20W., Sec. 14 SWSE	Pothole	X	X	X
	Cave Spring	T.20N., R.19W., Sec. 5 NWNW	Spring	X	X	X
Warm Spring 2-28/29	Crystal Water Development No. 8	(To Be Determined)	Unknown			
	Crystal Water Development No. 9	(To Be Determined)	Unknown			
	Alkali Seep	T.19N., R.19W., Sec. 34 NWSW	Spring		X	X
	Spring	T.18N., R.19W., Sec. 4 SWNE	Spring	X	X	X
	Cool Spring	T.19N., R.19W., Sec. 20	Spring	X	X	X
South Bradshaws East 2-84A	No Planned Projects					
Sierra Estrella 2-160	No Planned Projects					
Ragged Top 2-197	No Planned Projects					
Apache Box 4-76	No Planned Projects					
Hoverrocker 4-77	No Planned Projects					

Source: Phoenix and Safford District Files

MINERALS ACTIONS

Seven exploration projects are expected, resulting in three medium sized open-pit mines and two small underground mines, with four miles of road disturbing 13.5 acres. The three medium sized open-pit mines would disturb about 300 acres each and the two small underground mines about five acres each (cumulative disturbance of about 910 acres) and would employ 90 miners and operators. The medium mines would be in sections 9, 15, and 18 and the small mines in sections 16 and 20.

RANGELAND MANAGEMENT ACTIONS

Livestock and rangeland actions would remain basically the same as under *Proposed Action/No Wilderness* alternative.

RECREATION USE ACTIONS

Wilderness designation would close 5,815 acres to ORV use. Visitor use would be 30 visitor days/year (presently 80 VDY). All use would be nonmotorized—day hiking and some overnight backpacking extending from the nonmotorized recreational use of contiguous portions of the Lake Mead National Recreational Area, meeting the *Wilderness Act* criteria, between this unit and Lake Mohave. Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as those planned under *No Wilderness*.

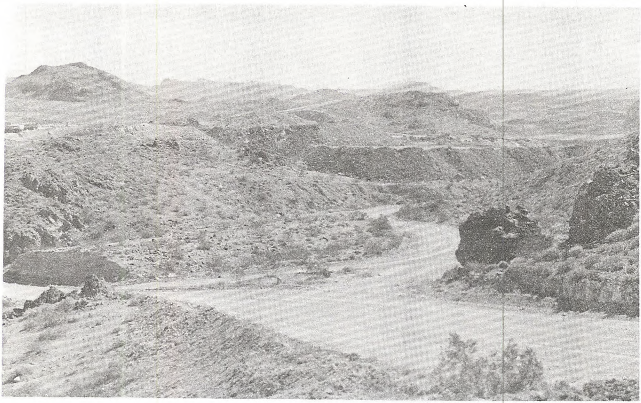
No other resource actions or uses are anticipated.

BLACK MOUNTAINS NORTH WSA

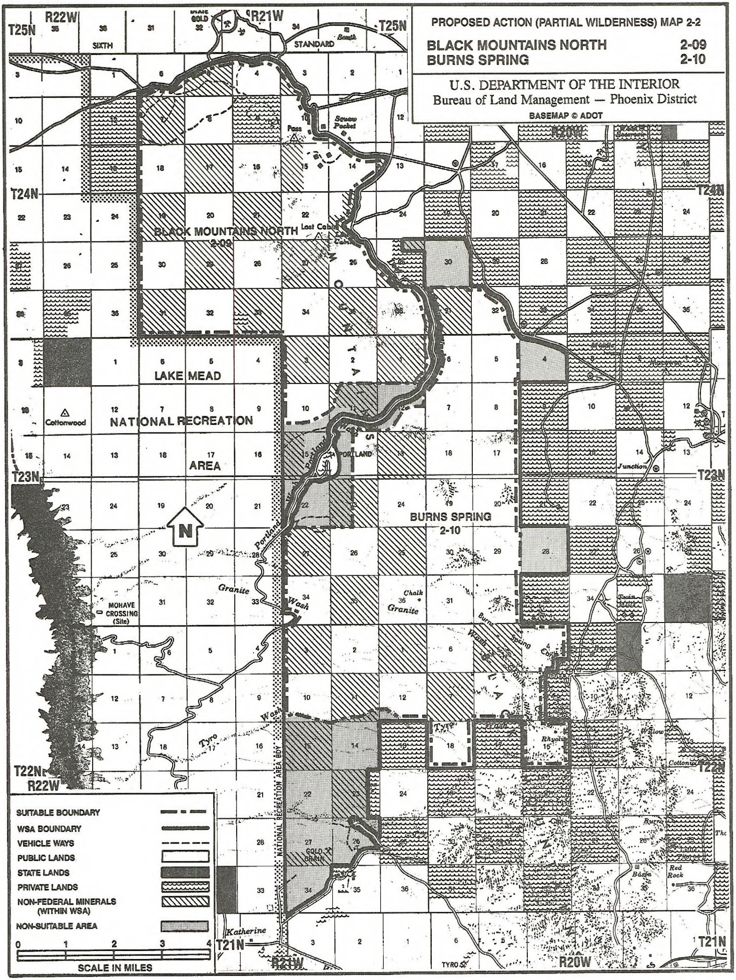
(AZ-020-09)

Proposed Action/Partial Wilderness Alternative (Map 2-2)

The *Proposed Action/Partial Wilderness* for the Black Mountains North WSA would designate 18,400 acres as wilderness and return 1,500 acres to other multiple use management uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would: (1) allow for anticipated expansion of the Portland Mine, (2) exclude an area of high mineral potential including an anticipated open-pit mine in the southern portion of the WSA and (3) allow a vehicle way in Lost Cabin Wash to remain open, providing access to Lake Mohave.



The Portland Mine lies between the Burn Springs and Black Mountains North WSA.



PROPOSED ACTION (PARTIAL WILDERNESS) MAP 2-2

BLACK MOUNTAINS NORTH 2-09
BURNS SPRING 2-10

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

The following uses and actions are anticipated for the designated area.

MINERALS ACTIONS

There would be three small mines (one underground and two open-pit). The two small open-pit mines would be in T. 24 N., R. 21 W., sections 10 and 36 and the underground mine in section 4. Disturbance by the mining would involve another 205 acres. The mines would employ approximately 85 miners and operators.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Unit B of the Fort MacEwen allotment has a total of eight miles of boundary fence within the WSA. All maintenance will be done on horseback once every five years.

RECREATION USE ACTIONS

Wilderness designation would close 18,400 acres to ORV use. The presentvisitor use levels within the area are 50 VDY for motorized use and 150 VDY for nonmotorized use. Over the long term, visitor use in this area would be 400 VDY, increasing from the present 200. All use would be nonmotorized including day hiking, overnight backpacking, wildlife observation and photography.

WILDLIFE MANAGEMENT ACTIONS

Maintenance of two existing developments and two pothole developments are planned (Table 2-3). Helicopter and foot travel would be used to obtain access to these projects.

The development of two additional waters in this unit is anticipated (Table 2-4). The field assessments have not been conducted and therefore exact locations are unknown. Maintenance schedules would be the same as those discussed under existing projects. Estimated surface disturbance is less than 1/4 acre for both.

The Lost Cabin spring area, T. 24 N., R. 21 W., section 27, would be used as a future bighorn sheep capture site; the animals would be transplanted to other sites outside of the WSA. Animals may be captured every year for two to three years in a row within an eight-year period.

A desert tortoise survey and subsequent monitoring of tortoise populations within the WSA is anticipated. Survey and monitoring would be on foot.

The following uses and actions are anticipated in 1,500 acres returned to other multiple use management.

MINERALS ACTIONS

The Portland Mine, a large open-pit mine in T. 23 N., R. 21 W., sections 14 and 15, would expand into this area, disturbing 200 acres. A medium-sized open-pit mine is anticipated in T. 23 N., R. 21 W., section 12, disturbing 300 acres.

RECREATION USE ACTIONS

Nondesignation of this area would leave 1,500 acres open to ORV use with present visitor use levels of 150 VDY for motorized use and none for nonmotorized use. Over the long term, visitor use in this area would increase to 350 VDY. All use would be motorized—backcountry vehicular access to Lake Mead National Recreation Area, recreational 4-wheeling and hunter access.

No other management actions or uses are anticipated.

All Wilderness Alternative (Map 2-3)

The *All Wilderness* alternative for the Black Mountains North WSA would designate 19,900 acres as wilderness. **Under this alternative the following actions and uses are anticipated.**

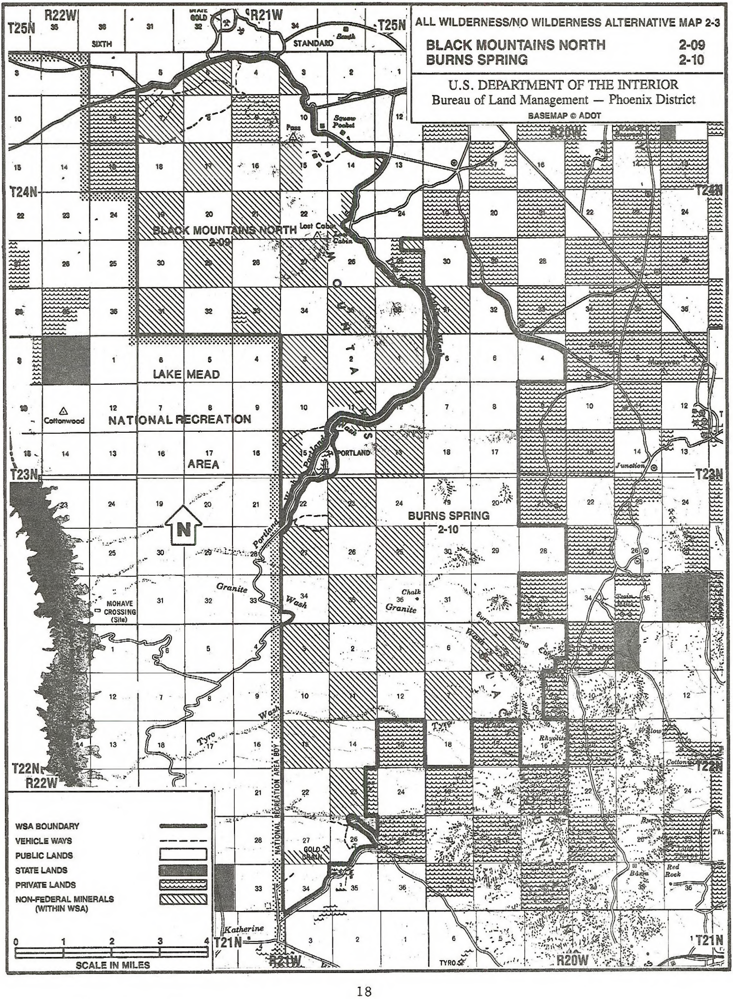
MINERALS ACTIONS

Projections for the Black Mountain North WSA would be one large open-pit mine (T. 23 N., R. 21 W., sections 14 and 15) that would expand into the designated area, causing 200 acres disturbance, one medium sized open-pit mine (T. 23 N., R. 21 W., section 11) using the larger mine's facilities and three small mines—one underground and two open-pit. The two small open-pit mines would be in T. 24 N., R. 21 W., sections 10 and 36, and the underground mine in section 4. The mines would disturb 705 acres.

The mines would employ approximately 85 miners and operators.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Livestock and rangeland actions would remain basically the same as under the *Proposed Action/Partial Wilderness* alternative. However, the limited amount of existing vehicle way will no longer be used for access to maintain existing fenceline.



ALL WILDERNESS/NO WILDERNESS ALTERNATIVE MAP 2-3

BLACK MOUNTAINS NORTH 2-09
BURNS SPRING 2-10

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

RECREATION USE ACTIONS

Wilderness designation would close 19,900 acres to ORV use. Visitor use would be 400 visitor days/year, more than the present 350 visitor days/year. All such use would be nonmotorized—day hiking and overnight backpacking. Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as those planned under *Proposed Action/Partial Wilderness*.

No other resource actions or uses are anticipated.

No Wilderness Alternative (Map 2-3)

The *No Wilderness* alternative for the Black Mountains North WSA would return 19,900 acres to other multiple use management uses.

The following uses and actions are expected.

MINERALS ACTIONS

Six exploration projects would develop the basis for one large open-pit mine (T. 23 N., R. 21 W., sections 14 and 15), causing 200 acres disturbance in the area, one large open-pit mine in T. 24 N., R. 21 W., section 22, one medium sized open-pit mine (T. 24 N., R. 21 W., section 36) and one small open-pit mine (T. 24 N., R. 21 W., section 4) disturbing 1,200 acres in the mine areas and 12 acres in eight miles of roads. The mines would have approximately 95 employees.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Livestock and rangeland actions would remain basically the same as under the *All Wilderness* alternative. A limited amount of vehicle way (2/3 mile) provides access for maintaining the eight miles of boundary fence on Unit B of Fort MacEwen once every few years.

RECREATION USE ACTIONS

Overall visitor use would increase to 650 VDY from the present 350, with off-road vehicle use allowed on the entire 19,300 acres. Motorized visitor use (recreational 4-wheeling and hunter access) would be 450 VDY, more than double the present 200. Nonmotorized recreation such as day hiking and overnight backpacking would also increase slightly from 150 VDY to 200 VDY. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *No Wilderness* are the same as those planned under *All Wilderness*.

No other resource actions or uses are anticipated.

BURNS SPRING WSA

(AZ-020-10)

Proposed Action/Partial Wilderness Alternative (Map 2-2)

The *Proposed Action/(Partial Wilderness)* for the Burns Spring WSA would designate 23,000 acres as wilderness and 7,600 acres for other resource uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would: (1) allow for the anticipated expansion of the Portland Mine and exclude an area of high mineral potential which includes an anticipated open-pit mine near the Portland Mine (Lost Cabin Wash area) of the WSA, (2) exclude three sections of the WSA on the north and east, which are surrounded on three sides by private land, thus unmanageable, and (3) allow continued vehicle use in Tyro Wash, access to Lake Mohave and the areas south of Tyro Wash which includes one anticipated open-pit mine.

The following uses and actions are anticipated for the designated area.

MINERALS ACTIONS

There would be one medium open-pit mine (T. 23 N., R. 21 W., section 34) and one medium open-pit mine on private minerals (T. 22 N., R. 21 W., section 3). The total area of disturbance for the mining activities would be 600 acres. Additional activities would result from the 50 employees of the mines.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Unit A of the Fort MacEwen allotment, under an Allotment Management Plan, has seven miles of boundary fence and one spring development with 200 feet of buried PVC pipe to a 500-gallon trough. Three and one-half miles of vehicle way provide access for annual maintenance of the spring and occasional use of motorized equipment would be required. The boundary fence would require maintenance by horseback every five years.

RECREATION USE ACTIONS

Wilderness designation of this area would close 23,000 acres to ORV use. Presently there are no motorized use and 180 VDY of nonmotorized use. Over the long term, visitor use in this area would be 450 VDY—all nonmotorized (day hiking, overnight backpacking, wildlife observation and photography).

WILDLIFE MANAGEMENT ACTIONS

Maintenance of three existing springs and one pothole development are planned (Table 2-3). Access is now by one or more of the following: 4-WD vehicle, helicopter or foot travel (Table 2-4).

Access to the existing Lost Cabin Catchment No. 1 is by a wash for a total of 1½ miles in the WSA.

Access to the existing Chalk Spring is Granite Wash for a total of three miles. The rest of the way is by foot north to the spring.

Access to the existing Calles Spring is by the jeep trail originating off Portland Wash Road at T. 23 N., R. 21 W., section 22, and directly into section 27 to the spring for a total of 3/4 mile in the WSA.

The development of two additional waters in this unit is anticipated (Table 2-4). The field assessments have not been conducted and, therefore, exact locations are unknown. Maintenance schedules would be the same as those discussed under existing projects.

A desert tortoise survey and subsequent monitoring of tortoise populations would be conducted on foot.

The following uses and actions are anticipated in the 7,600 acres returned to other resource uses.

MINERALS ACTIONS

One exploration program would result in one large open-pit mine in T. 23 N., R. 21 W., sections 14, 15 and 22, one small open-pit mine in T. 22 N., R. 21 W., section 26, and one medium open-pit mine in T. 23 N., R. 21 W., section 12. The mine would disturb 950 acres and employ 40 workers.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. One spring development on the Portland Spring Allotment has a total of 200 feet of buried PVC pipe to a 500-gallon trough. Two-thirds of a mile of vehicle way provides access for project maintenance. The project would be maintained without regard to wilderness constraints.

RECREATION USE ACTIONS

Nondesignation of this area would leave 7,600 acres open to ORV use. The present use in this portion is 100 VDY for motorized use and 20 VDY for nonmotorized use. Over the long term, visitor use would increase to 200 VDY, all motorized—backcountry access to Lake Mead National Recreation Area, recreational 4-wheeling and hunter access.

No other resource actions are anticipated.

All Wilderness Alternative (Map 2-3)

The *All Wilderness* alternative for the Burns Spring WSA would designate 30,600 acres as wilderness. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

There would be one large open-pit mine (T. 23 N., R. 21 W., sections 14, 15 and 22), two medium open-pit mines (T. 23 N., R. 21 W., sections 12 and 34), one small open-pit mine (T. 22 N., R. 21 W., section 26) and one medium open-pit mine on private minerals (T. 22 N., R. 21 W., section 3). The total area of disturbance for the mining activities would be 1,550 acres plus another 12 acres for eight miles of new road construction. Additional activities would result from the 115 employees of the mines.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Livestock and rangeland actions would remain basically the same as under the *Proposed Action/Partial Wilderness* alternative. However, all projects, including the spring development on the Portland Spring Allotment, will be maintained with regard to wilderness constraints. Occasional use of motorized equipment would be scheduled for annual maintenance.

RECREATION USE ACTIONS

Wilderness designation would close 30,600 acres to ORV use. Visitor use would be 450 visitor days/year, increasing from the present 300. All such use would be nonmotorized and would consist of dayhiking and overnight backpacking. Visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as under the *Proposed Action/Partial Wilderness*.

No other resource actions or uses are anticipated.

No Wilderness Alternative (Map 2-3)

None of the Burns Spring WSA's 30,600 acres would be designated wilderness under the *No Wilderness* alternative. Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

Seven anticipated exploration projects are expected to result in one large open-pit mine (T. 23 N., R. 21 W., sections 14, 15 and 22), two medium open-pit mines (T. 23 N., R. 21 W., sections 12 and 34), one small open-pit mine (T. 22 N., R. 21 W., section 26) and one medium mine on private minerals (T. 22 N., R. 21 W., section 3). The total area of disturbance from mining activities would be 1,550 acres, plus another 12 acres for eight miles of new road construction. The mines would employ approximately 115 personnel.

RANGELAND MANAGEMENT ACTIONS

Livestock and rangeland actions would remain the same as under the *All Wilderness* alternative.

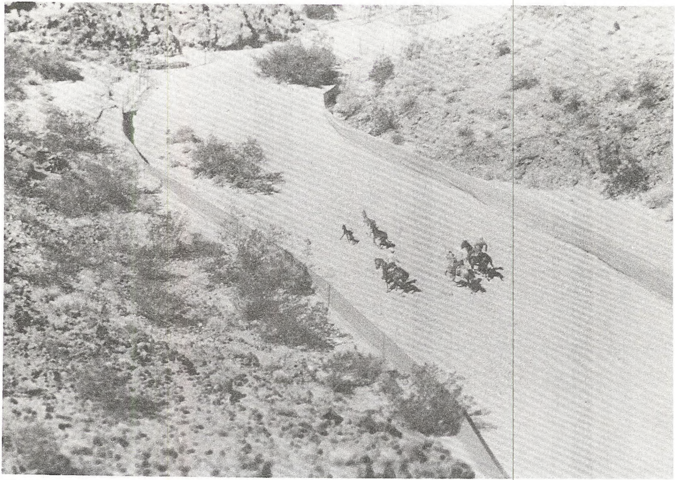
RECREATION USE ACTIONS

Overall visitor use would increase to 470 VDY from the present 300, mostly because of off-road vehicle use on the entire 30,600 acres. Motorized use (recreational 4-wheeling and hunter access) would be 200 VDY, twice the present 100. Nonmotorized recreation, such as day hiking and overnight backpacking, would also increase slightly from 200 VDY to 270. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *No Wilderness* are the same as planned under *Proposed Action/Partial Wilderness*.

No other resource actions or uses are anticipated.



Wing Trap in Granite Wash — Burns Spring WSA.

MOUNT TIPTON WSA
(AZ-020-12/42)

Proposed Action/Partial Wilderness
(Map 2-4)

The *Proposed Action/Partial Wilderness* for the Mount Tipton WSA would designate 28,170 acres as wilderness and return 5,890 acres to other resource uses. Boundary adjustments would eliminate an irregularly shaped appendage of WSA land which is isolated from the much more scenic main mass of the area. This eliminated area also contains some high mineral potential areas and a projected mine.

The following uses and action are anticipated for the designated area.

MINERAL ACTIONS

There would be one medium and one small open-pit mine in T. 25 N., R. 18 W., sections 8 and 17 (section 17 is on private minerals). These mines would disturb 350 acres with three miles of new road construction disturbing five acres. Approximately 30 employees would work at the two mines.

LANDS ACTIONS

About 1.2 miles of road would be built across Section 32, T. 25 N., R. 18 W., to reach private land in section 33 of the same township. Total disturbance would be approximately 5.8 acres.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. The Mount Tipton Allotment's existing range improvements in the WSA are one mile of buried pipeline to a 300-gallon trough from a spring development outside the WSA, 0.3 mile of buried pipeline with a 4,000-gallon steel storage, two troughs, a corral and 3.75 miles of pasture fence.

The mile-long pipeline extends beyond the allotment boundary into an adjacent allotment outside the WSA, the Dolan Springs Allotment. The project serves this allotment as well.

A total of 1.3 miles of vehicle way provides access for the maintenance of the above waters along the pipelines. Mechanical equipment is required for maintenance once every year. The pasture fence has existing access for maintenance outside the WSA.

The Cane Springs allotment, under an Allotment Management Plan, has several range improvements in the WSA: three miles of pasture fence and one spring development, including 50 feet of surface pipe and one trough. There is no vehicular access for maintenance of these projects; all maintenance is performed by hand.

The Quail Springs allotment, under an Allotment Management Plan, has range improvements in the WSA: 3.8 miles of boundary fence, one mile of pasture fence, three hand-developed springs with a total of 1.25 miles of surface pipe to three 500-gallon troughs and 0.75 mile of surface pipe from a well outside the WSA to another facility also outside the area. Existing vehicle ways totalling five miles provide access for maintaining the above improvements. No mechanical equipment is required for maintenance except to replace the 0.75 mile of pipe from the well or to carry material to the spring developments. Maintenance of a fence would be done by horseback every five years.

Proposed Range Improvements. Proposed range improvements planned for resource protection and effective management of resources are in T. 25 N., R. 18 W., section 13 (proposed spring development) and T. 25 N., R. 17 W., section 18 (proposed spring development).

Each of the above springs would be developed by hand. All materials would be packed or air lifted into the areas. Water would be piped for 50 feet through surface pipe to 500-gallon troughs.

RECREATION USE ACTIONS

Wilderness designation would close 28,170 acres to ORV use. Within the area proposed for designation, presently there are 100 VDY for motorized and 400 VDY for nonmotorized use. Over the long term, visitor use in this area would increase to 800 VDY, all nonmotorized—day hiking, overnight backpacking, birdwatching and photography.

WILDLIFE MANAGEMENT ACTIONS

There are no existing wildlife developments in this WSA.

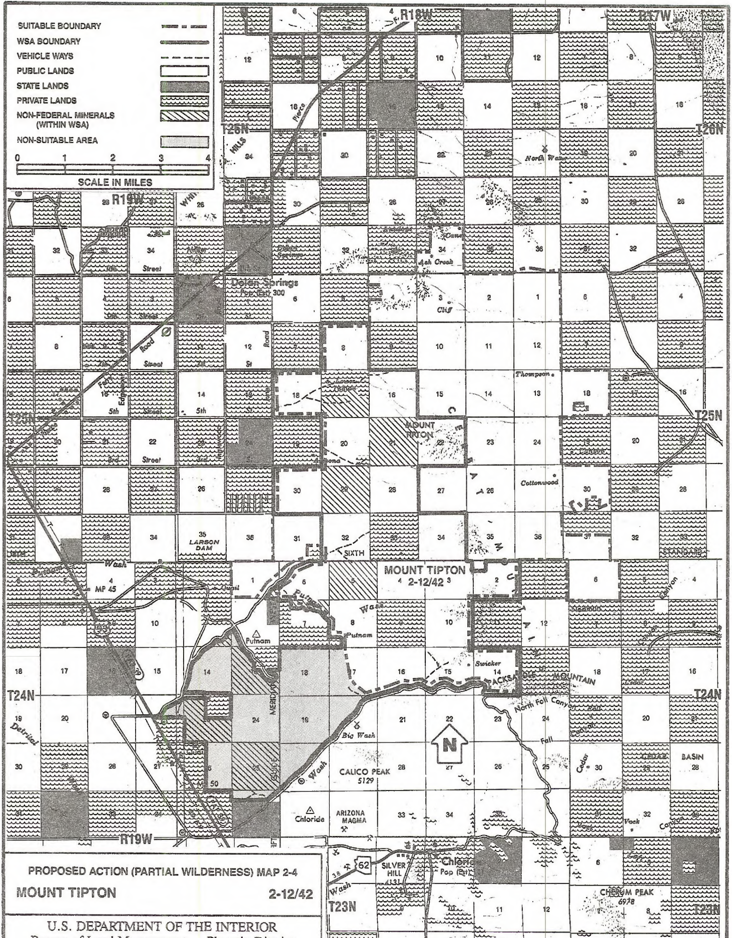
The development of four water developments in this unit is anticipated (Table 2-4). The field assessments have not been conducted for two of the waters and therefore exact locations are unknown. Locations for two other planned projects are found in Table 2-4.

Four-WD vehicles, helicopter and foot travel would be used to access these planned projects.

Vehicle access to the proposed Upper Indian Spring project begins at the jeep trail in T. 25 N., R. 18 W., section 18, SW¼, then east into section 17 past lower Indian Spring and continues into the northwest corner of section 16 at Upper Indian Spring. A total of 2¾ miles of vehicle access is used in the WSA.

Access to the proposed Mount Tipton catchment would be by helicopter and foot only.

The following uses and actions are anticipated for the area returned to other resource uses.



PROPOSED ACTION (PARTIAL WILDERNESS) MAP 2-4

MOUNT TIPTON 2-12/42

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

MINERALS ACTIONS

One exploration program and a large open-pit mine would disturb 600 acres on the township boundary between T. 29 N., R. 18 W., and 19 W., section 25. Section 25 is a private mineral estate.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. One spring development and 3/4 mile of pasture fence on the Quail Springs Allotment would be maintained without regard to wilderness constraints. Existing vehicle way of 1/4 mile provides access to the spring.

RECREATION USE ACTIONS

This alternative area would leave 5,890 acres open to ORV use. The present visitor use levels within the area are 30 VDY for motorized use and none for nonmotorized use. Over the long term, visitor use would increase to 50 VDY from the present 30 VDY, all motorized—recreational 4-wheeling and hunter access.

No other resource actions or uses are anticipated.

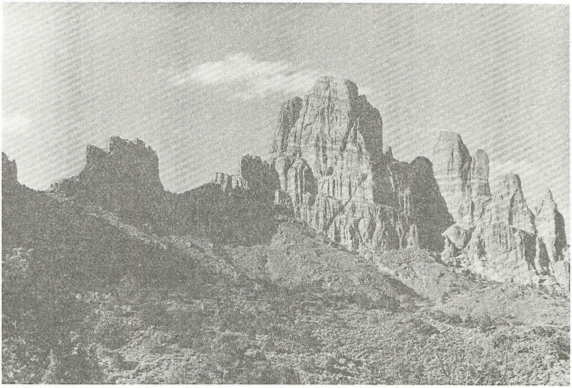
All Wilderness Alternative (Map 2-5)

The *All Wilderness* alternative for the Mt. Tipton WSA would designate 34,060 acres as wilderness.

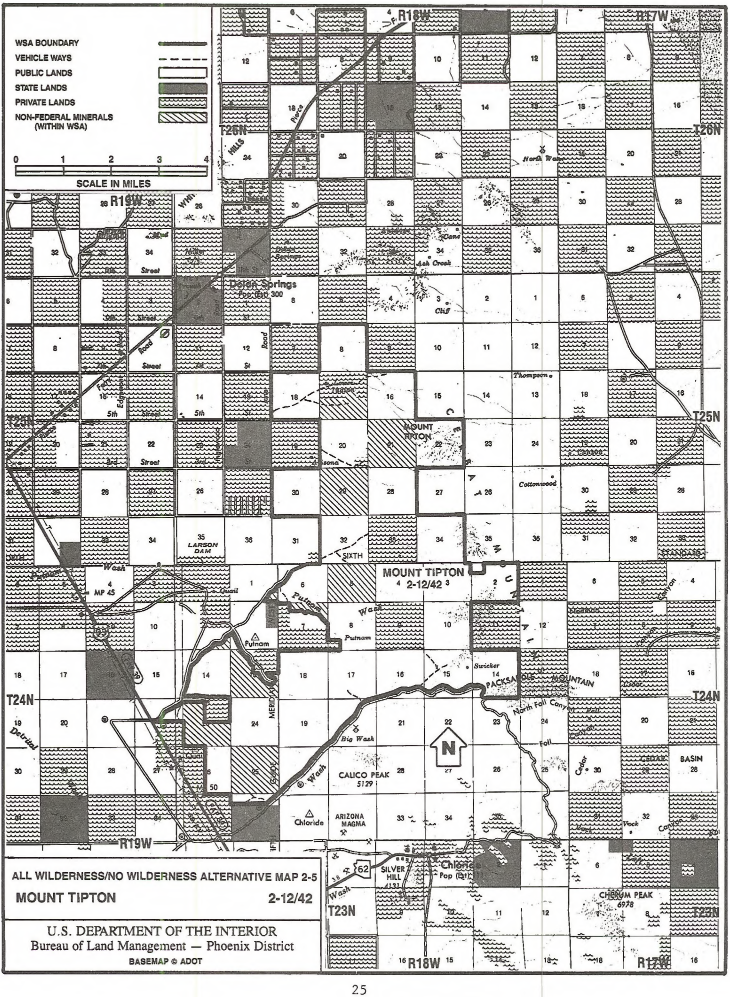
Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

There would be: (1) one large open-pit mine at the township boundary between sections 25 and 30, T. 24 N., R. 18 and 19 W., G&SRM (section 25 is on private minerals), disturbing 600 acres and (2) one medium and one small open-pit mine in T. 25 N., R. 18 W., sections 8 and 17 (section 17 is on private minerals), disturbing 350 acres, with another seven acres involved in five miles of new road construction. Approximately 65 employees would work at the three mines.



The Cerbat Mountain Pinnacles — Mount Tipton.



ALL WILDERNESS/NO WILDERNESS ALTERNATIVE MAP 2-5

MOUNT TIPTON **2-12/42**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

LANDS ACTIONS

Approximately 1.2 miles of road would be built across section 32, T. 25 N., R. 18 W., to reach private land in section 33 of the same township. Total disturbance would be about 5.8 acres.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Livestock and rangeland actions would remain basically the same as under the *Proposed Action/Partial Wilderness* alternative. All improvements identified would be managed under wilderness constraints. One spring development and 3/4 mile of pasture fence on Quail Springs would be included in the WSA management area. The spring will require annual use of motorized equipment for maintenance. The fence would continue to be maintained by horseback once in five years.

Remaining vehicle way of 1.5 miles accessing various fence projects would no longer be used. All maintenance access would be by horseback.

Proposed Range Improvements. Proposed range improvements planned for resource protection and effective management of resources are in T. 25 N., R. 18 W., section 13 (proposed spring development) and T. 25 N., R. 17 W., section 18 (proposed spring development).

Each of the above springs would be developed by hand. All materials would be packed or airlifted into the areas. Water would be piped for 50 feet through surface pipe to 500-gallon troughs.

RECREATION USE ACTIONS

Wilderness designation would close 34,060 acres to ORV use. Visitor use would increase to 800 VDY from the present 500 and would all be nonmotorized—day hiking and overnight backpacking. Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as planned under the *Proposed Action/Partial Wilderness*.

VEGETATIVE SALES

Mohave yucca harvest on 280 acres (Table 2-5) would be denied.

No other resource actions or uses are anticipated.

No Wilderness Alternative (Map 2-5)

The Mt. Tipton WSA's 34,060 acres would be returned to other resources under the *No Wilderness* alternative.

Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

Four exploration projects in the Mount Tipton WSA would produce: (1) one large open-pit mine at the township boundary between sections 25 and 30 of T. 24 N., R. 18 and 19 W. (section 25 is on private minerals), disturbing 600 acres and (2) one large open-pit mine in T. 25 N., R. 18 W., sections 8 and 17 (section 17 is on private minerals), disturbing 600 acres with another seven acres involved in five miles of new road construction. The two mines would employ about 60 people and disturb a total of 1,207 acres.

LANDS ACTIONS

Approximately 1.2 miles of road would be built across section 32, T. 25 N., R. 18 W., to reach private land in section 33 of the same township. Total disturbance would be about 5.8 acres.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Livestock and rangeland actions would be basically the same as under the *Proposed Action/Partial Wilderness* alternative. However, no wilderness constraints would be applied to the use of motorized equipment in order to maintain nine water developments with 5.5 miles of existing vehicle way.

Proposed Range Improvements. Proposed range improvements planned for resource protection and effective management of resources are the same as planned under the *Proposed Action/Partial Wilderness*.

RECREATION USE ACTIONS

Overall visitor use would increase to 600 VDY from the present 500. Motorized vehicle use (recreational 4-wheeling and hunter access) would be allowed on the entire 34,060 acres and would increase to 150 VDY from 100. Nonmotorized recreation (day hiking and overnight backpacking) would also increase from 400 VDY to 450. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *No Wilderness* are the same as planned under the *Proposed Action/Partial Wilderness*.

VEGETATION ACTIONS

The 280 acres of Mohave yucca along the west boundary of the WSA (Table 2-5) are suitable for harvest, subject to BLM stipulations. This area would be harvested in the near future on a 30-year rotation cycle.

No other resource actions or uses are anticipated.

GRAPEVINE WASH WSA

(AZ-020-14)

Proposed Action/No Wilderness Alternative (Map 2-6)

The *Proposed Action/No Wilderness* for the Grapevine Wash WSA would return 2,200 acres to other multiple use management. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

One exploration project would lead to development of one medium open-pit mine, T. 30 N., R. 16 W., section 10 and 15, disturbing 300 acres in the mine site and another one acre in the one mile of access road. The new mine would employ approximately 25 people.

RECREATION USE ACTIONS

Since the topography prevents vehicle access, all recreation would remain nonmotorized. Overall visitor use would remain 10 visitor days/year. Recreation activities would include primitive and unconfined types of recreation use, such as day hiking. Projected visitor use by alternative is shown in Table 2-2.

No other resource actions or uses are anticipated.

All Wilderness Alternatives (Map 2-6)

The *All Wilderness* alternative for the Grapevine Wash WSA would designate 2,200 acres as wilderness. Under this alternative the following actions and uses are anticipated.

Under this alternative the following actions and uses are anticipated.

RECREATION USE ACTIONS

Wilderness designation would close 2,200 acres to ORV use, which is the present situation because of topographic barriers. Visitor use would increase to 15 VDY from the present 10. All such use would be nonmotorized. Some overnight backpacking would result from nonmotorized recreational use of the contiguous and much larger Lake Mead National Recreational Area Wilderness between this unit and Lake Mead. Projected visitor use by alternative is shown on Table 2-2.

No other resource actions or uses are anticipated.

GRAND WASH CLIFFS WSA

(AZ-020-15)

Proposed Action/No Wilderness Alternative (Map 2-7)

The *Proposed Action/No Wilderness* alternative for the Grand Wash Cliff WSA would return 12,176 acres to other multiple use management uses.

Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

Four exploration projects would result in the development of one medium sized underground mine in section 14, T. 27 N., R. 16 W., disturbing 50 acres with another one acre for 0.6 miles of access roads. The activity would require approximately 25 employees.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. A total of 0.5 mile of pasture fence is on the Clay Springs Allotment within the WSA. There is no vehicular access to the project so horses are used.

An Allotment Management Plan has been developed for the Upper Music Allotment. Range improvements are six miles of boundary or pasture fence, one spring development with storage and trough, one reservoir and a rainwater catchment including an 80,000-gallon storage tank and trough plus exclosure.

A total of three miles of existing vehicle way would be used in the maintenance of the above waters with mechanical equipment required.

Fencing maintenance access is by horseback every five years.

In addition, 2.75 miles of fenceline was mechanically cleared within the area and 800 acres subsequently prescribe-burned and aerially reseeded with non-native species of wild rye, crested wheatgrass and western wheatgrass. The project would be periodically maintained with mechanical equipment.

TABLE 2-5
WSA AREAS SUITABLE FOR MOHAVE YUCCA HARVEST

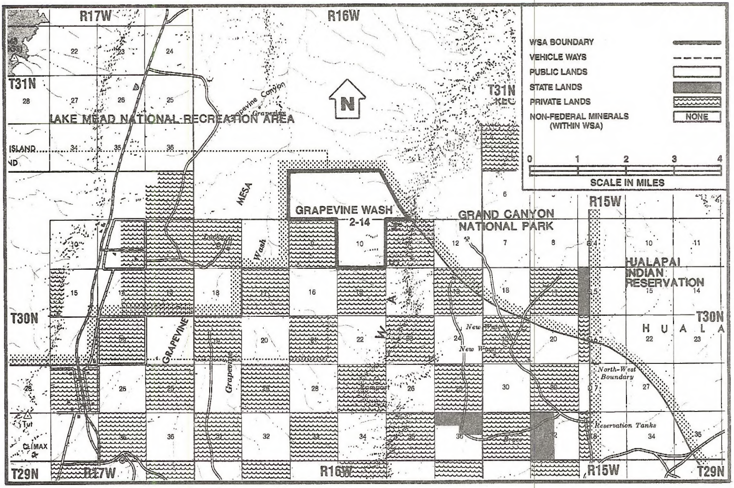
Bureau of Land Management, Arizona

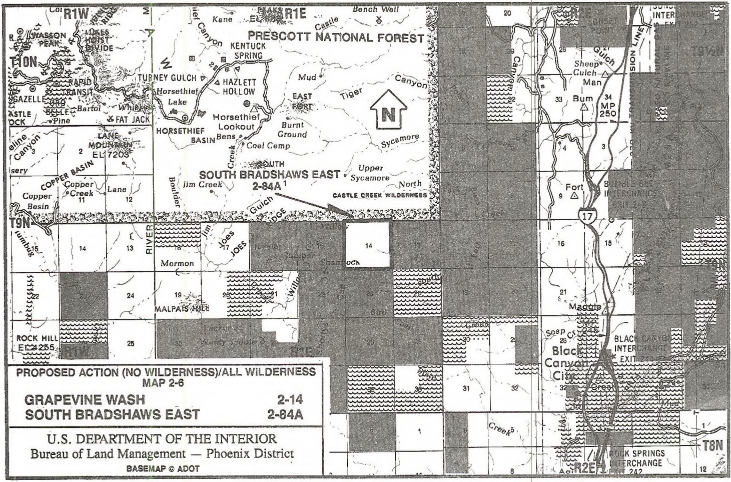
WSA	Acres Suitable for Harvest	Location	Year Last Harvested	Next Eligible Year for Harvest*
Mount Tipton	280	T. 25 N., R. 18 W., Section 18	—	1987
TOTAL:	280			
Mount Nutt	80	T. 20 N., R. 19 W., Section 4, NW¼	1982	2012
	80	Section 5, NE¼	1982	2012
	320	Section 8	1981	2011
	320	Section 22, S½	1980	2010
	150	Section 28	1978	2008
	10	T. 19 N., R. 19 W., Section 15, N½	—	1987
	120	Section 16, NW¼	—	1987
TOTAL:	1,080			
Warm Springs	20	T. 19 N., R. 18 W., Section 19, SW¼SW¼	—	1987
	20	Section 29, SW¼SW¼	—	1987
	620	Section 30	—	1987
	320	Section 31, N½	—	1987
	160	Section 32, NW½	—	1987
	640	T. 19 N., R. 19 W., Section 25	—	1987
	550	Section 26	—	1987
	600	Section 27	—	1987
TOTAL:	2,930			

*Based on a 30-Year Rotation Cycle

Source: Phoenix District Files

Yucca harvest area in Warm Springs WSA.

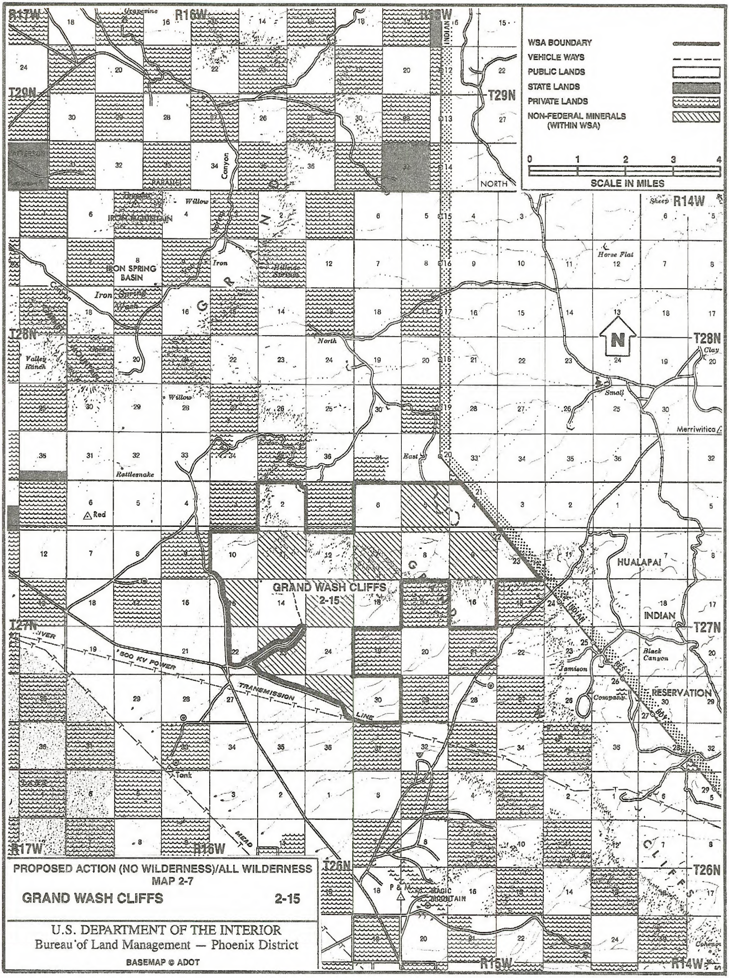




PROPOSED ACTION (NO WILDERNESS)/ALL WILDERNESS
MAP 2-6

GRAPEVINE WASH	**2-14**
SOUTH BRADSHAWS EAST	**2-84A**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT



PROPOSED ACTION (NO WILDERNESS)/ALL WILDERNESS
MAP 2-7

GRAND WASH CLIFFS **2-15**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

Proposed Range Improvements. Proposed range improvements planned for resource protection and effective management of resource are a proposed well drilling, T. 27 N., R. 16 W., section 14, would require access for the drill rig over one mile of existing vehicle way. If suitable water is found, a windmill, 20,000-gallon concrete storage and a trough would be installed. The storage will be painted to blend into the surrounding environment. Total disturbance would be 0.5 acre.

A prescribed burn in sagebrush with the use of a terratorch is proposed. Approximately 110 acres of the burn is within the WSA (the total burn involves 900 acres). That portion of the project within the WSA has undergone juniper chaining or wildfire in the past. Firing from the torch would take place from points on an existing road outside the WSA. A total of 1.5 miles of 25-foot-wide fire line would be mechanically cleared. The area would be allowed to vegetate naturally following the burn.

RECREATION USE ACTIONS

Overall visitor use would increase to 160 VDY from the present 110. Off-road vehicle use on the entire 12,176 acres would be motorized (recreational 4-wheeling and hunter access) increasing to 120 VDY from 80. Nonmotorized recreation use such as day hiking and overnight backpacking would increase from 30 VDY to 40. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

Maintenance of one existing catchment is planned with access by 4-WD vehicle, helicopter and foot travel (see Table 2-3).

Vehicle access to the existing Music Mountain Catchment No. 8 begins on the vehicle way at T. 27 N., R. 15 W., section 5, NW¼NE¼, and is followed to Lost Creek Reservoir in section 5, then south into section 8. At the fork in the wash in the northeast corner of section 8 the southern fork is taken until a vehicle way is reached at a wash fork in the SW¼NE¼ of section 8. From here vehicles climb out of the wash and head west on the vehicle way to the catchment. A total of 2¾ miles of vehicle access is used in the WSA.

The development of one additional water in this unit is planned (Table 2-4). Maintenance schedules would be the same as for existing projects. Total disturbance would be 0.5 acre.

The one mile of vehicle access to the proposed Slickrock Catchment (Table 2) begins on the jeep trail at T. 27 N., R. 16 W., section 14, SE¼SE¼, and follows a wash north through section 14 where it ends at the NWNE¼ of section 14. Then foot travel is required.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-7)

The *All Wilderness* alternative for the Grand Wash Cliffs WSA would designate 12,176 acres as wilderness. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

There would be one medium-sized underground mine in section 14, T. 27 N., R. 16 W., G&SRM, disturbing 50 acres with another one acre for 0.6 mile of access road. The mine would have approximately 24 employees.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. Livestock and rangeland actions will remain basically the same as under the *Proposed Action/No Wilderness* alternative. It is important to recognize that continued occasional use of motorized equipment would be required for annual maintenance of the spring development, reservoir and rainwater catchment.

Proposed Range Improvements. The proposed well drilling project in T. 27 N., R. 16 W., section 14, would require design modification in order to be compatible with wilderness values. Use of motorized equipment would be regulated.

RECREATION USE ACTIONS

Wilderness designation would close 12,176 acres to ORV use. Visitor use would decrease to 80 VDY from the present 110 and would all be nonmotorized (day hiking and backpacking). Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

Management actions are the same as those listed under the *Proposed Action/No Wilderness* alternative.

No other management actions or uses are anticipated.

MOUNT DAVIS WSA

(AZ-020-21)

Proposed Action/No Wilderness Alternative (Map 2-1)

The *Proposed Action/No Wilderness* alternative for the Mount Davis WSA would return 2,560 acres to other multiple use management.

Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

Two exploration projects in the Mount Davis WSA would result in one medium open-pit mine in T. 26 N., R. 21 W., section 30. Total disturbance would be 300 acres in the mine area and another three acres in the two miles of access road. Operation would require about 25 people.

RECREATION USE ACTIONS

Since the topography prevents vehicle access (with one exception), recreation use would remain nonmotorized (day hiking and overnight backpacking) and would increase to 40 VDY from the present 30. One road would be built in Section 30 as access to a mine which would open a small area to motorized recreation (15 VDY). Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

Maintenance of one existing development is planned with access by 4-WD vehicle and helicopter (see Table 2-3).

Access to the existing Mount Davis Catchment is by the wash originating in the southwest of T. 25 N., R. 22 W., section 22 (1/4 mile in the WSA).

The development of one additional water in this unit is anticipated (Table 2-4). The field assessment has not been conducted and therefore the exact location is unknown. Maintenance schedules would be the same as those discussed for the existing project. Surface disturbance would be 0.25 acre.

An on-foot desert tortoise survey and subsequent monitoring of tortoise populations within the WSA are anticipated.

No other management actions or uses are anticipated.

All Wilderness Alternative (Map 2-1)

The *All Wilderness* alternative for the Mount Davis WSA would designate 2,560 acres as wilderness. Under this alternative the following actions and uses are expected.

Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

Management actions are the same as those shown under the *Proposed Action/No Wilderness* alternative except no exploration programs.

RECREATION USE ACTIONS

Wilderness designation would close 2,560 acres to ORV use, but topographic barriers keep the WSA inaccessible. Visitor use days would increase to 40 VDY from the present 30, all nonmotorized. Some dayhiking and overnight backpacking would result from nonmotorized recreational use of contiguous portions of the Lake Mead National Recreational Area, meeting the *Wilderness Act* criteria, between this unit and Lake Mohave. Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

Management actions are the same as those listed under the *Proposed Action/No Wilderness* alternative.

No other management actions or uses are anticipated.

MOUNT NUTT WSA

(AZ-020-24)

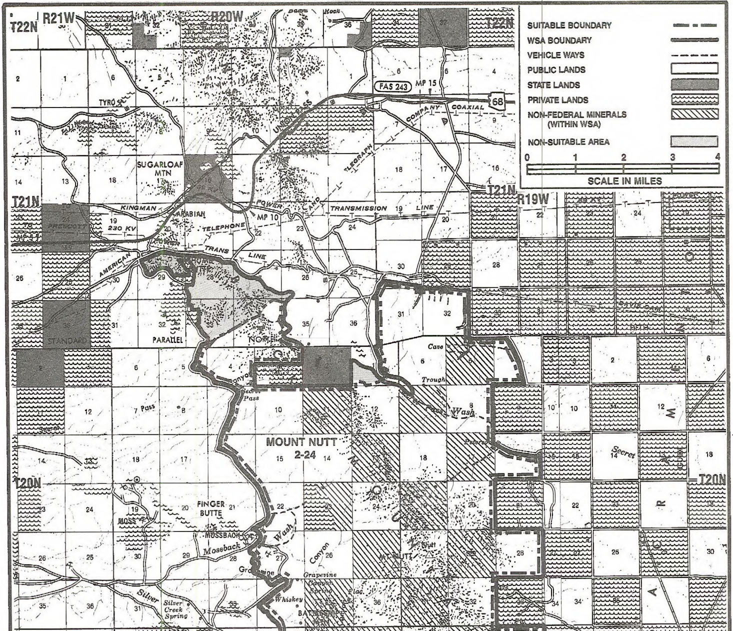
Proposed Action/Partial Wilderness Alternative (Map 2-8)

The *Proposed Action/Partial Wilderness* for the Mount Nutt WSA would designate 27,210 acres as wilderness and return 1,980 acres to other resource uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would remove most of an irregularly shaped appendage of land which is isolated from the main mass of the WSA. This eliminated area also contains a 2.5-mile segment of a large coal slurry pipeline and associated maintenance trail, some high mineral potential areas and a projected medium sized open-pit mine. Another small area located in the north-central portion of the WSA, which is currently undergoing intensive mineral exploration preliminary to a probable medium sized open-pit mine, would also be removed. A very small tract located at the southeast corner of the WSA would also be removed. A jeep trail in this area allows for the only practical access to a patented mining claim located outside of the WSA, but surrounded by the same on three sides.

The following uses and actions are anticipated for the designated area.

MINERALS ACTIONS

There would be one medium underground mine at section 27, T. 20 N., R. 20 W., two small (hand-dug and operated) open-pit mines at section 12, T. 19 N., R. 20 W., and section 30, T. 20 N., R. 19 W., for fire opal, each disturbing one acre, and two small open-pit gold mines on private minerals in



PROPOSED ACTION (PARTIAL WILDERNESS) MAP 2-8

MOUNT NUTT 2-24

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

sections 7 and 9, T. 19 N., R. 19 W. Total disturbed acreage would be 156 acres, including four miles of access roads. No vehicle access would be needed to the fire opal mine in section 30. The mines would employ about 65 people.

LANDS ACTIONS

Necessary periodic maintenance activities on the Oatman water pipeline from Flag Springs would be pipe replacement, repair and monitoring.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. An Allotment Management Plan has been developed for the Black Mountain Allotment. Several range improvements exist: 2.8 miles of boundary or pasture fence (limited access over 0.3 mile of vehicle way) and three spring developments with 2.3 miles of buried pipeline (access over 2.8 miles of vehicle way.)

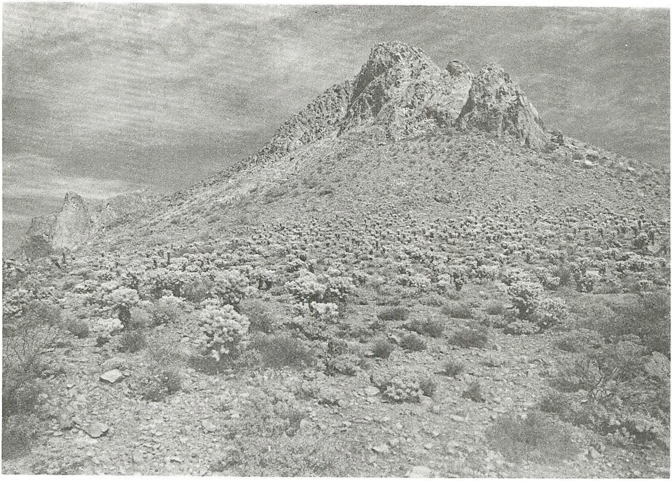
Most fenceline maintenance is done from horseback.

Mechanical equipment is needed for the maintenance of each of the three spring developments once every year.

Proposed Range Improvements. Proposed range improvements would be planned for resource protection and effective management of resources.

A total of 3.5 miles of boundary fence in T. 20 N., R 20 W., section 1, and T. 20 N., R 19 W., sections 28 and 32, is proposed. Access to the two areas is available outside the WSA and all materials would be packed to the actual locations. Fence posts would be a color that blends into the surrounding environment.

Proposed reconstruction of 1.8 miles of buried pipeline (in T. 20 N., R. 19 W., sections 16, 17, 18 and 19) from an existing spring development would require a backhoe during construction. The pipeline would follow the original route along an existing vehicle way to a storage tank and trough outside the WSA.



Cholla Patch — Mount Nutt WSA.

CULTURAL ACTIONS

The main management actions would be the protection of pictograph sites and possible future excavations at Bighorn Cave. The work will be accomplished with hand tools or under the "minimum tool policy."

RECREATION USE ACTIONS

Wilderness designation would close 27,210 acres to ORV use and eliminate the present 1,100 VDY of motorized use. Over the long term, nonmotorized visitor use in this area would increase to 2,600 VDY from the present 1,700, although overall visitor use would decrease from 2,800 VDY. These uses would be day hiking, overnight backpacking, photography, wildlife observation and birdwatching. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

Maintenance of four existing springs and two planned pothole developments (Table 2-3) would require access by 4-WD vehicle, helicopter and foot travel.

Vehicle access to the existing Upper Twin Spring is by Peterson Well in T. 20 N., R. 19 W., section 16, to a wash and southwest through section 17 to the SW¼SW¼. Foot travel is required for another 1/2 mile to the spring. A total of 1¼ miles of vehicle access is used in the WSA.

Vehicle access to the existing Trough Spring begins at T. 20 N., R. 19 W., section 8, SE¼SE¼SE¼SE¼, goes up a wash through the south half of section 8and, at section 7, turns northwest and leads directly to the spring. A total of two miles of vehicle access is used in the WSA.

Vehicle access to the existing Ram Spring begins at the jeep trail in T. 21 N., R. 19 W., section 31, NE¼NE¼, and where the trail ends turns into a wash, giving access to the spring. A total of one-third mile of vehicle access is used in the WSA.

Vehicle access to the existing Slurry Tank begins in the wash in T. 21 N., R. 20 W., section 35, NW¼, continues northwesterly for 3/4 mile, then southwesterly for another 1/2 mile, following an existing pipeline. A total of 1¼ miles of vehicle access is used in the WSA.

The three abandoned wildlife water developments in this WSA are Grapevine Tank, Raptor Tank and WL Spring (Table 2-3). The two potholes have completely washed out due to flooding and the unproductive spring is silted in. Access is not needed to these three projects.

The development of four additional waters in this unit is anticipated (Table 2-4). The field assessments have not been conducted for two of the waters and, therefore, exact locations are unknown. The two other planned waters are Cottonwood Tanks and Cave Spring (Table 2-4). Maintenance schedules would be the same as those discussed for existing projects.

Vehicle access to the proposed Cottonwood Tanks project starts at the jeep trail in T. 20 N., R. 20 W., section 22, SW¼, and continues east one mile up into the main wash at T. 20 N., R. 20 W., section 23, NW¼. Then foot travel is required. A total of one mile of vehicle access is used in the WSA.

Vehicle access to the proposed Cave Spring project starts at a vehicle way in T. 20 N., R. 19 W., section 5, NE¼, and continues westerly for 1/4 mile where the vehicle is parked and foot travel is required. A total of 1/4 mile of vehicle access is used in the WSA.

An on-foot desert tortoise survey and subsequent monitoring of tortoise populations within the WSA are anticipated.

The following uses and actions are anticipated in the area returned to other resource uses.

MINERALS ACTIONS

Two exploration projects would result in two medium open-pit mines at section 1, T. 20 N., R. 20 W., and section 28, T. 21 N., R. 20 W. Total disturbed acreage would be 600 acres and the mines would employ about 40 people.

LANDS ACTIONS

Periodic maintenance activities on the Black Mesa Pipeline coal slurry line would be pipe replacement, repair and monitoring.

RECREATION USE ACTIONS

Nondesignation of this area would leave 1,980 acres open to ORV use. Over the long term, visitor use in this area would increase to 300 VDY from the present 200: 100 VDY motorized (recreational 4-wheeling and hunter access) and 200 VDY nonmotorized (day hiking, photography and wildlife observation).

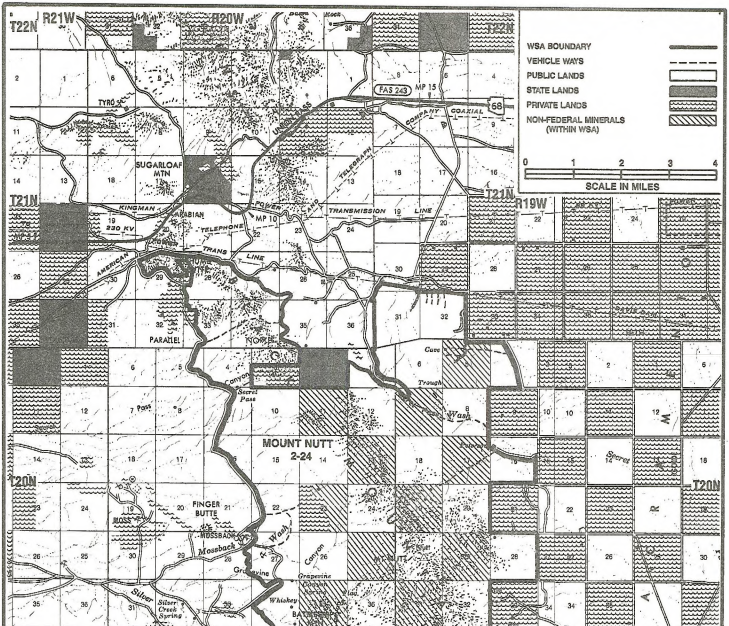
VEGETATION SALES

Approximately 130 acres of land along the southeast boundary of the WSA would be suitable for Mohave yucca harvest, subject to BLM stipulations. Harvest schedules are based on a 30-year rotation cycle (Table 2-5).

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-9)

The *All Wilderness* alternative for the Mount Nutt WSA would designate 29,190 acres as wilderness. **Under this alternative the following actions and uses are anticipated.**



ALL WILDERNESS/NO WILDERNESS ALTERNATIVE MAP 2-9

MOUNT NUTT 2-24

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

MINERALS ACTIONS

There would be two medium open-pit mines at section 1, T. 20 N., R. 20 W., and section 28, T. 21 N., R. 20 W., one medium underground mine at section 27, T. 20 N., R. 20 W., and two small (hand-dug and operated) open-pit mines at section 12, T. 19 N., R. 20 W., and section 30, T. 20 N., R. 19 W, for fire opal, each disturbing one acre. Two small open-pit gold mines will also be opened on private minerals in sections 7 and 9, T. 19 N., R. 19 W. Total disturbed acreage is 758 acres including four miles of access roads. The mines will employ about 105 people.

LANDS ACTIONS

Periodic maintenance activities on the Black Mesa Pipeline coal slurry line are pipe replacement, repair and monitoring. No impacts to naturalness would result except during the actual activity.

Periodic maintenance activities on the Oatman water pipeline from Flag Springs would be pipe replacement, repair and monitoring. No impacts to naturalness would occur except during the actual activity.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. The actions are the same as under the *Proposed Action/Partial Wilderness* alternative. It is important to recognize that occasional use of motorized equipment would be required for maintenance and construction of all water development. Access is available over 4.6 miles of existing vehicle way.

CULTURAL RESOURCE ACTIONS

The main management actions would be the protection of pictograph sites and possible future excavations at Bighorn Cave. The work will be accomplished with hand tools or under the "minimum tool policy."

RECREATION USE ACTIONS

Wilderness designation would close 29,190 acres to ORV use. Visitor use would decrease to 2,800 VDY from the present 3,000 and would be nonmotorized (day hiking, birdwatching, rock climbing, wildlife viewing, photography and overnight backpacking). Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as under the *Proposed Action/Partial Wilderness*.

VEGETATIVE SALES

Yucca harvest on 1,080 acres of land (Table 2-5) would be denied.

No other resource actions or uses are anticipated.

Enhanced Wilderness Alternative

(Map 2-10)

The *Enhanced Wilderness* alternative differs from the *Proposed Action/Partial Wilderness* alternative in that 650 acres of land acquired through exchanges along the southern and northern boundaries of the WSA have been included in the 27,860 acres designated wilderness. The 1980 acres would be returned to other resource uses.

Under this alternative, the management actions and uses would be the same as the *Proposed Action/Partial Wilderness*.

No Wilderness Alternative (Map 2-9)

The *No Wilderness* alternative for the Mount Nutt WSA would return 29,190 acres to other multiple use management.

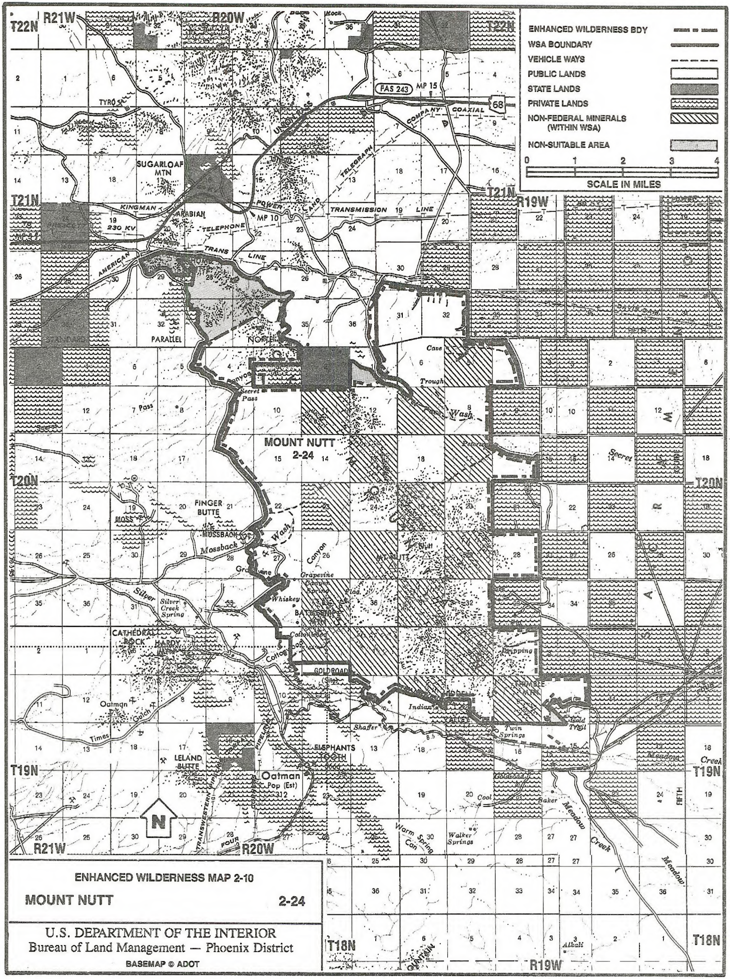
Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

A total of 12 exploration projects would result in one large open-pit at section 1, T. 20 N., R. 20 W., one medium open-pit mine at section 28, T. 21 N., R. 20 W., one medium underground mine at section 27, T. 20 N., R. 20 W, and two small, hand-dug and operated open-pit mines at section 12, T. 19 N., R. 20 W., and section 30, T. 20 N., R. 19 W., the latter for fire opal. Each opal mine would disturb one acre. Two small open-pit gold mines would also be opened on private minerals in sections 7 and 9, T. 19 N., R. 19 W. Total disturbed acreage is 1,063 acres including seven miles of access roads. Mining activities would employ about 100 people.

LANDS ACTIONS

Periodic maintenance activities on the Black Mesa Pipeline coal slurry line and the Oatman water pipeline from Flag Springs would be pipe replacement, repair and monitoring.



ENHANCED WILDERNESS MAP 2-10

MOUNT NUTT 2-24

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. The livestock and rangeland actions would remain basically the same as under the *Proposed Action/Partial Wilderness* alternative. However, access to range improvements and use of motorized equipment would not be regulated under wilderness constraints. A total of .3 mile of limited access, precluded from use under wilderness status, would continue to be used in the maintenance of 2.8 miles of fenceline. Access and use of motorized equipment over 4.6 miles of existing vehicle way would not be regulated in order to maintain or construct any of the four water developments.

CULTURAL RESOURCE ACTIONS

The main management actions would be the protection of pictograph sites and possible future excavations at Bighorn Cave. These actions would involve the use of a large amount of heavy equipment into the area.

RECREATION USE ACTIONS

Overall visitor use would increase to 3,800 VDY from the present 3,000. Off-road vehicle use within the WSA would be allowed on the entire 29,190 acres. Motorized use (recreational 4-wheeling, hunter access, rockhounding) would increase to 1,600 VDY from the present 1,200 VDY. Nonmotorized recreation such as day hiking, overnight backpacking, etc., would also increase from 1,800 VDY to 2,200 VDY. Projected visitor use by alternative is shown in Table 2-2.

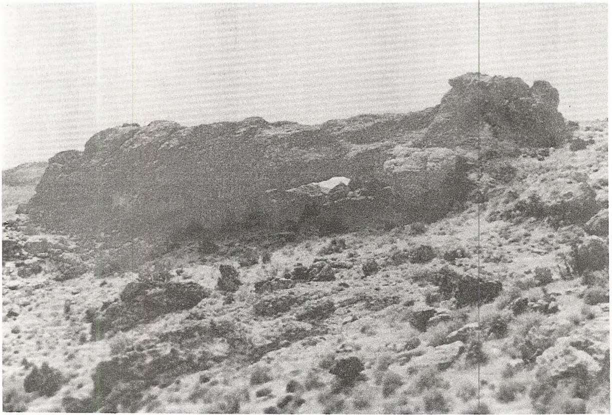
WILDLIFE MANAGEMENT ACTIONS

The actions planned under No Wilderness are the same as under the Proposed Action/Partial Wilderness.

VEGETATION SALES

Approximately 1080 acres of land along the east and southeast boundary of the WSA are suitable for Mohave yucca harvest, subject to BLM stipulations (Table 2-5). Harvest schedules are based on a 30-year rotation cycle. Between 1978 and 1982, 1,270 acres were harvested. This area will not be subject to reharvest until 2008-2012.

No other resource actions or uses are anticipated.



Rock cave near Trough Spring in the Black Mountains — Mount Nutt WSA.

WARM SPRINGS WSA

(AZ-020-28/29)

Proposed Action/Partial Wilderness Alternative (Map 2-11)

The *Proposed Action/Partial Wilderness* for the Warm Springs WSA would designate 90,600 acres as wilderness and return 24,200 acres to other resource uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would: (1) remove a large wedge-shaped parcel of land with lower wilderness values in the south-central portion of the WSA, (2) exclude a 5,500-acre area with high mineral potential (and one anticipated zeolite mine) in the McHeffy Butte area, (3) extend a 0.5-mile cherrystemmed jeep trail up to the Warm Springs site — only administrative use of this road for wildlife and wild burro management would be allowed; both sides of this area are bordered by jeep trails which access Warm Springs, a very important burro capture area — and 4) delete an area in the east-central portion of the WSA to align the eastern boundary with the west side of a nine-mile segment of Sacramento Wash.

This will make the boundary much more definable and will delete a small area east of (and including the wash) that would be difficult to manage as wilderness because of vehicle use in this broad, sandy drainage. A total of four cherrystems will be deleted. Three of these cherrystems access old mine exploration scars and receive little vehicle use. Other cherrystems provide access to spring sites (Caliche Spring and Antelope/Alkali Springs). Both springs are very important to bighorn sheep and burro management. The Wilderness Management Policy will, however, allow for developed spring maintenance and ongoing mechanized (vehicle and helicopter) burro capture activities to continue at these sites under the wilderness regime.

The following uses and actions are anticipated in the designated area.

MINERALS ACTIONS

There would be one large underground gold mine in section 30, T. 19 N., R. 19 W., one medium open-pit kaolinite mine on private minerals in T. 17 N., R. 19 W., section 35, one small underground mine in section 36, T. 19 N., R. 20 W., and two small open-pit mines in section 11, T. 18 N., R. 19 W., and section 1, T. 18 N., R. 19 W., G&SRM. About 455 acres and 80 workers would be involved.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. An Allotment Management Plan has been developed for the Black Mountain Allotment which has 4.6 miles of boundary fence and three springs developments with the WSA.

On Unit B of the Boriana Allotment there is one spring development with two miles of buried pipeline extending to a service area outside of the WSA.

All of the fenceline is maintained via horseback, but the springs and pipelines have been developed and maintained by backhoe or other mechanized equipment. Seven miles of existing vehicle way provide access to the springs for required annual maintenance.

Proposed Range Improvements. Proposed range improvements are planned for resource protection and effective management of resources.

A total of 6.5 miles of boundary fence in T. 19 N., R. 19 W., section 24, T. 19 N., R. 18 W., sections 18, 20, 29 and 32, and T. 19 N., R. 18 W., section 5, is proposed. Access to the general area is available through Sacramento Wash and materials would be packed into the site. Fence posts would be a color that blends into the surrounding environment. Minimal surface disturbance would be incurred.

An existing reservoir is fed by an adjacent spring in T. 18 N., R. 19 W., section 10. An animal trap is proposed around the reservoir in order to facilitate managing the rancher's cattle as well as the burro population.

The exclosure would protect the spring source and provide a separate watering area for wildlife. Materials would be of the standard fence type and would blend into the landscape.

Materials would be driven directly to the construction site on 3.5 miles of existing vehicle way. A total of 1.5 miles of the way requires occasional maintenance by motorized equipment.

The reservoir will require occasional maintenance by motorized equipment as well.

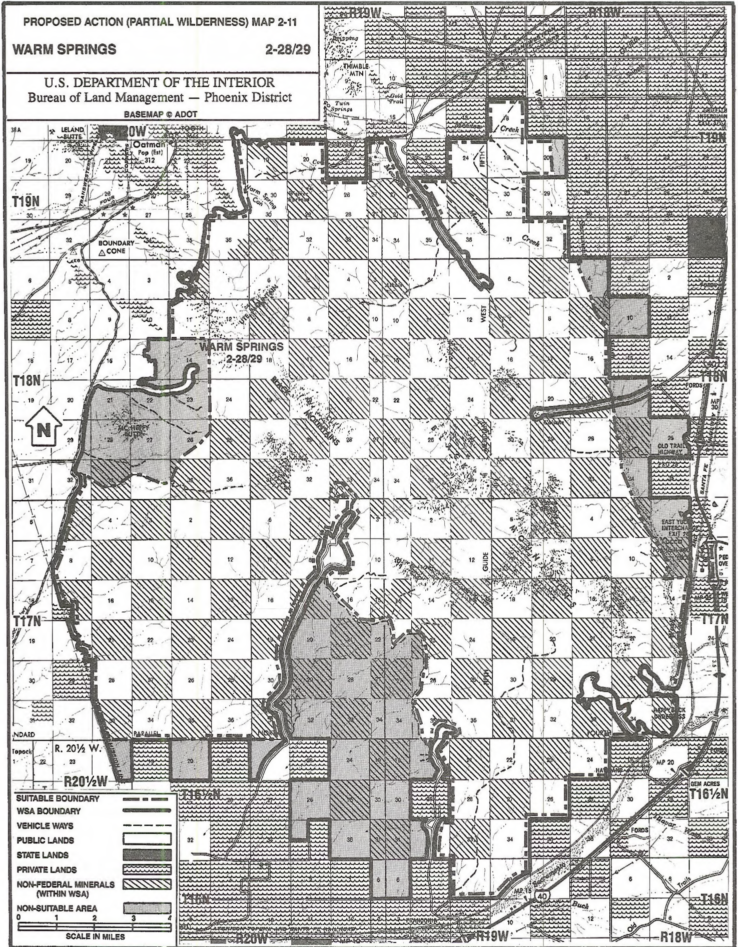
RECREATION USE ACTIONS

Wilderness designation would close 90,600 acres to ORV use. The present visitor use levels within the area proposed for designation are 450 VDY for motorized use and 250 VDY for nonmotorized use. Over the long term, visitor use would be 700 VDY. All such use would be nonmotorized (day hiking, overnight backpacking, wildlife observation, photography and birdwatching).

WILDLIFE MANAGEMENT ACTIONS

Planned maintenance of six existing springs and three pothole developments would require use of some or all of the currently used 4-WD vehicles, helicopter and foot travel (Table 2-3).

Vehicle access to existing Sheep Spring, Columbine Spring and Metate Spring is the same for all three. Vehicles enter the WSA on the jeep trail at T. 18 N., R. 20 W., section 32, continue west for four miles and then into a wash for the last three miles. At T. 18 N., R. 20 W., section 36, SE¼, the



PROPOSED ACTION (PARTIAL WILDERNESS) MAP 2-11

WARM SPRINGS 2-28/29

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

vehicle is parked and foot travel is required to reach the springs. A total of four miles of vehicle access is used in the WSA.

Vehicle access to existing McHeffy Spring starts at the wash in T. 18 N., R. 20 W., section 29, SE¼, off old Route 66, and continues westerly through sections 27, 28, 33, 34 and north into section 27, for a total of two miles in the WSA.

Vehicle access to existing Antelope Spring begins at the jeep trail in T. 19 N., R. 19 W., section 35, NE¼, continues south through T. 19 N., R. 19 W., section 35, and then southwest through T. 18 N., R. 19 W., section 2. The trail drops into a wash to a turnoff to Alkalai Spring in T. 18 N., R. 19 W., section 10, then out of the wash onto a way in T. 18 N., R. 19 W., section 9. A total of 3½ miles of vehicle access is used in the WSA. The development of five additional waters in this unit is anticipated (Table 2-4). The field assessments have not been conducted on two of the projects and, therefore, exact locations are unknown. Exact locations for three of the planned waters are known (see Table 2-4). Maintenance schedules would be the same as those discussed for existing projects.

Access to the proposed spring in T. 18 N., R. 19 W., section 4, SW¼NE¼, begins at the jeep trail in T. 19 N., R. 19 W., section 35, NE¼, then south through T. 19 N., R. 19 W., section 35, southwest through T. 18 N., R. 19 W., section 2, into a wash until reaching the turnoff to Alkalai Spring in T. 18 N., R. 19 W., section 10. From this point, foot travel is required. A total of three miles of vehicle access is used in the WSA.

Access to the proposed Cool Spring project begins at the vehicle way in T. 19 N., R. 19 W., section 20, SE¼ for 1/3 mile until the spring is reached.

It is anticipated that the Columbine Spring area, T. 17 N., R. 19 W., section 6, will be used as a bighorn capture site in the future. Those animals captured would be transplanted to areas outside the WSA. Animals may be captured every year for two to three years in a row within an eight-year period.

An on-foot desert tortoise survey and subsequent monitoring of tortoise populations within the WSA are anticipated.

The following uses and actions are anticipated in the 24,200 acres returned to other resource uses.

MINERALS ACTIONS

There would be one large open-pit zeolite mine in sections 14, 22 and 23, T. 18 N., R. 20 W., disturbing 600 acres.

RECREATION USE ACTIONS

Nondesignation of this area would leave 24,200 acres open to ORV use. Over the long term, within the area proposed for nondesignation, recreation would increase

Interior valley in eastern portion of Warm Springs WSA cuts into Black Mesa —Warm Springs WSA.

from 150 VDY (motorized) to 450 VDY (all motorized). Use would be recreational 4-wheeling and hunter access.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-12)

The *All Wilderness* alternative for the Warm Springs WSA would designate 114,800 acres as wilderness. **Under this alternative the following actions and uses are anticipated.**

MINERALS ACTIONS

There would be one large underground gold mine in section 30, T. 19 N., R. 19 W., one large open-pit zeolite mine in sections 14, 22 and 23, T. 18 N., R. 20 W., one medium-sized open-pit kaolinite mine on private minerals in T. 17 N., R. 19 W., section 35 and two small open-pit (disturbing one acre each) and one small underground mine in section 36, T. 19 N., R. 20 W., section 11, T. 18 N., R. 19 W., and section 1, T. 18 N., R. 19 W., G&SRM. About 957 acres and 80 workers would be involved.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. The livestock and rangeland actions would remain the same as under the *Proposed Action/Partial Wilderness* alternative. It is important to recognize that occasional use of motorized equipment would be required over seven miles of existing vehicle way in order to maintain or reconstruct four livestock waters.

RECREATION USE ACTIONS

Wilderness designation would close 114,800 acres to ORV use. Visitor use days would decrease from 850 to 700 VDY and would be nonmotorized (day hiking, wildlife viewing, photography, overnight backpacking). Projected visitor use by alternative is shown on Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions planned under *All Wilderness* are the same as under the *Proposed Action/Partial Wilderness*.

VEGETATION SALES

Mohave yucca harvest on approximately 2,930 acres (Table 2-5) would be denied.

No other resource actions or uses are anticipated.

Enhanced Wilderness Alternative

(Map 2-13)

The *Enhanced Wilderness* alternative differs from the *Proposed Action/Partial Wilderness* alternative in that 620 acres acquired through exchange in the northeastern portion of the WSA have been included in the 91,180 acres designated wilderness. The 24,200 acres would be returned to other resource uses.

Under this alternative management actions and uses would be the same as described under the *Proposed Action/Partial Wilderness* alternative.

No Wilderness Alternative (Map 2-12)

The *No Wilderness* alternative for the Warm Springs WSA would return 114,800 acres to other multiple use management.

Under this alternative the following actions and uses are anticipated.

MINERALS ACTIONS

Eleven exploration and development projects would result in one large underground gold mine in section 30, T. 19 N., R. 19 W., one large open-pit zeolite mine in sections 14, 22 and 23, T. 18 N., R. 20 W., two medium open-pit gold mines in section 9, T. 17 N., R. 19 W., and section 1, T. 18 N., R. 19 W., one medium open-pit kaolinite mine on private minerals in T. 17 N., R. 19 W., section 35, and two small open-pit (disturbing one acre each) and underground mines in section 36, T. 19 N., R. 20 W., and section 11, T. 18 N., R. 19 W., G&SRM. The mines would disturb 1,557 acres and employ 165 workers.

RANGELAND MANAGEMENT ACTIONS

Maintenance of Existing Projects. The actions would remain basically the same as under the *Proposed Action/Partial Wilderness* alternative. However, access to range improvements and use of motorized equipment would not be regulated under wilderness constraints. A total of four miles of access, precluded from use under wilderness status, would be used in the construction of 5.5 miles of proposed boundary fence. Access and use of motorized equipment over seven miles of existing vehicle way would not be regulated in order to maintain or reconstruct the four water developments.

RECREATION USE ACTIONS

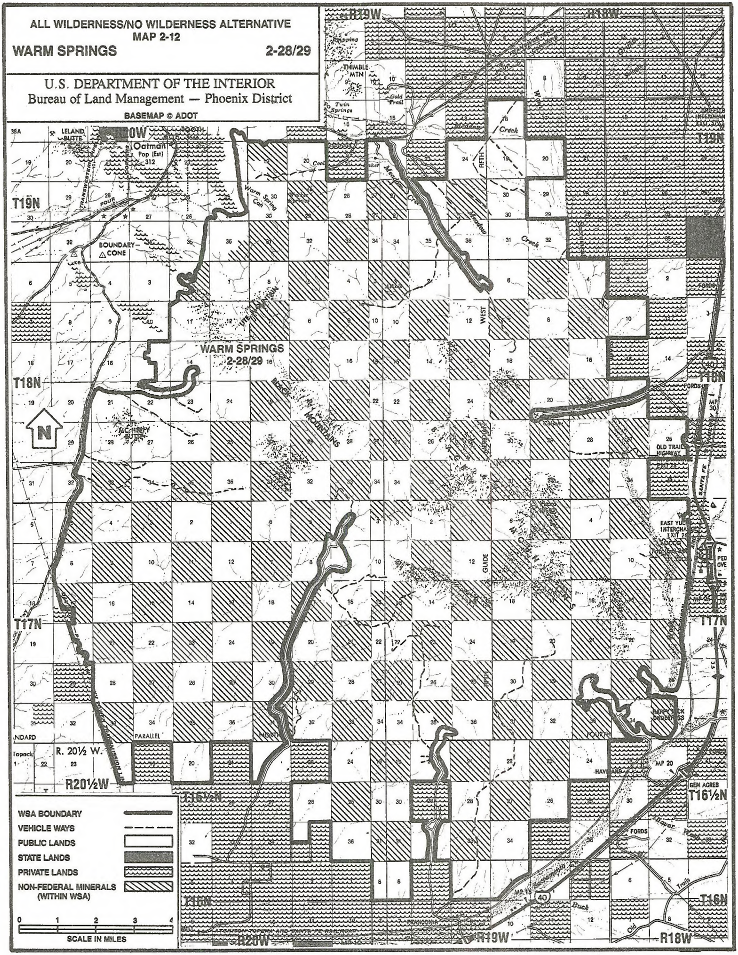
Twenty-four miles of vehicle ways and approximately 38,000 acres would remain open for ORV use. In order to better protect and manage desert bighorn sheep habitat,

ALL WILDERNESS/NO WILDERNESS ALTERNATIVE
MAP 2-12

WARM SPRINGS **2-28/29**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

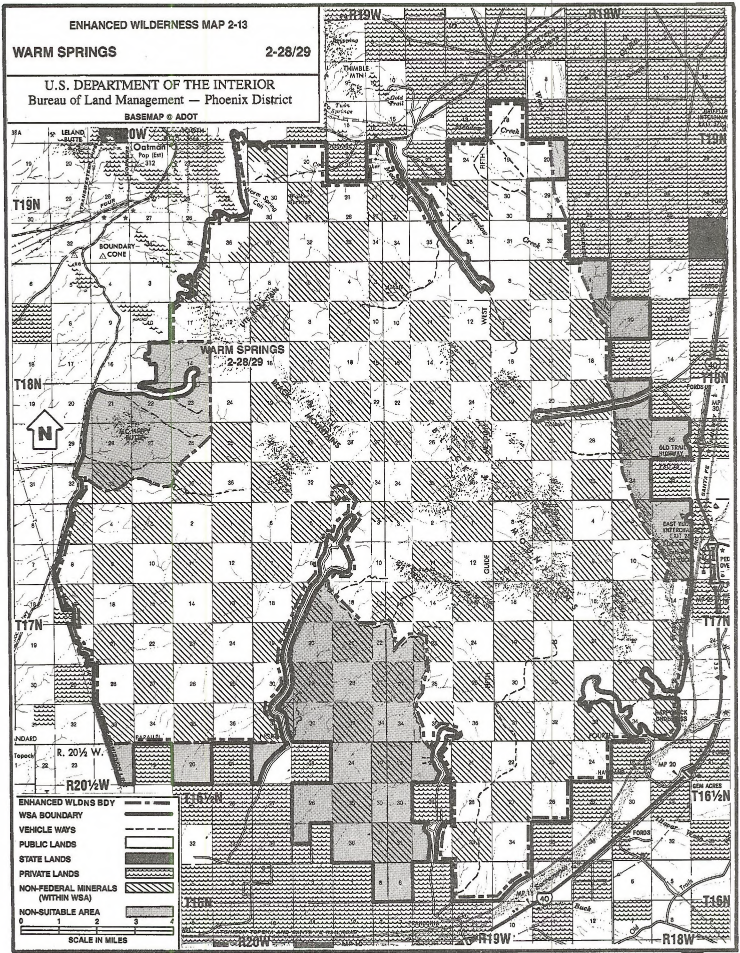


ENHANCED WILDERNESS MAP 2-13

WARM SPRINGS 2-28/29

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT



future ORV designations would close 76,800 acres and 24 miles of vehicle ways. Overall visitor use would increase to 1,300 VDY from the present 850. Motorized visitor use (recreational 4-wheeling, hunter access, rockhounding) would increase to 900 VDY from 600. Nonmotorized recreation (day hiking, overnight backpacking) would increase from 250 VDY to 400. Projected visitor use by alternative is shown in Table 2-2.

WILDLIFE MANAGEMENT ACTIONS

The actions under *No Wilderness* are the same as under the *Proposed Action/Partial Wilderness*.

VEGETATION SALES

Approximately 2,930 acres of land in the northeast portion of the unit (Table 2-5) are suitable for Mohave yucca harvest, subject to BLM stipulations. This area may be harvested in the near future on a 30-year rotation cycle.

No other resource actions or uses are anticipated.

SOUTH BRADSHAWS EAST (AZ-020-84A) WSA

Proposed Action/No Wilderness Alternative (Map 2-6)

The *Proposed Action/No Wilderness* alternative for the South Bradshaws East WSA would return 640 acres to other multiple management uses.

The following actions and uses are anticipated.

MINERALS ACTIONS

The expected one exploratory program, one small mine and up to .5 mile of new road would disturb about five to seven acres. The exploration and mining activity are expected in the SE¼ of the WSA (section 14, T. 9 N., R. 1 E.).

RECREATION USE ACTIONS

Overall visitor use would be expected to remain at current levels of approximately 100 VDY because of limited access to the area. ORV use would be restricted to existing roads and trails.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-6)

This alternative would designate 640 acres in the South Bradshaws WSA as wilderness.

The following actions and uses are anticipated.

RECREATION USE ACTIONS

Nonmotorized visitor use would increase to 150 VDY from 100 because of the increased awareness of the WSA and the proximity of the Castle Creek Wilderness area in the Prescott National Forest.

No other resource actions or uses are anticipated.

SIERRA ESTRELLA WSA

(AZ-020-160)

Proposed Action/All Wilderness

(Map 2-14)

The *Proposed Action/All Wilderness* alternatives would designate all 14,830 acres of the Sierra Estrella WSA as wilderness.

The following uses and actions are anticipated.

MINERALS ACTIONS

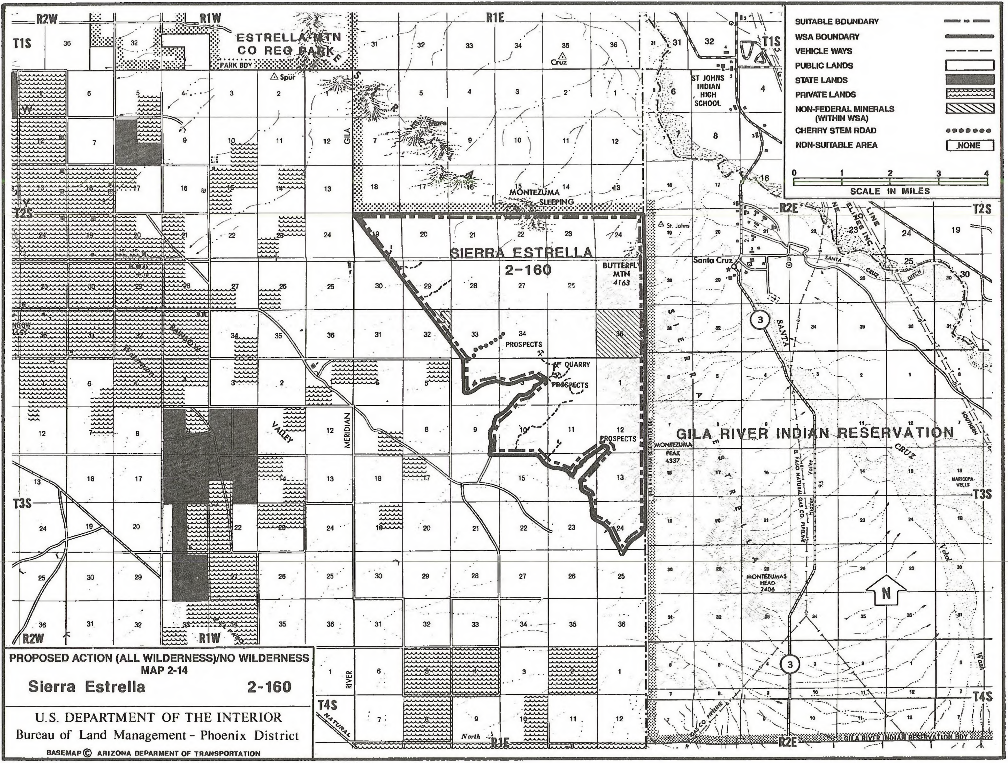
In T. 3 S., R. 1 E., section 24, one small mining operation would be developed, disturbing less than five acres. Access is adequate but would need maintenance.

LAND USE ACTIONS

Designation of the area would require the removal of one temporary right-of-way authorized under the *Interim Management Policy*. No additional rights-of-way would be established.

RECREATION USE ACTIONS

Designation would close the entire 14,830 acres, including 2.5 miles of vehicle ways to motorized visitor use. Hiking, hunting and rock collecting would continue. Wilderness designation would result in about 1,000 nonmotorized visitor use days/year. See Table 2-2 for visitor use by alternative.



PROPOSED ACTION (ALL WILDERNESS)/NO WILDERNESS
MAP 2-14

Sierra Estrella 2-160

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District

BASEMAP © ARIZONA DEPARMENT OF TRANSPORTATION

WILDLIFE MANAGEMENT ACTIONS

Montezuma and Butterfield Tanks would require maintenance and improvement to benefit desert bighorn sheep and other desert wildlife. This would include enlargement of the masonry dams and installation of shades and gabions to increase storage, reduce evaporation and divert silt, respectively. This will be done in a nonimpairing manner.

No other resource actions or uses are anticipated.

No Wilderness Alternative (Map 2-14)

The *No Wilderness* alternative for the Sierra Estrella WSA would return 14,830 acres to other multiple use management.

The following uses and actions are anticipated.

MINERALS ACTIONS

In T. 3 S., R. 1 E., section 24, there are 24 claims that cover the entire section. One small-sized mining operation and two exploration areas would be developed with surface disturbance under five acres for each. Access is adequate but upgrading would be necessary. About one-half mile of new road would be constructed.

In T. 3 S., R. 1 E., section 13, 37 mining claims are mostly in the west and north halves of the section. One exploratory operation would cause less than five acres of surface disturbance. Three miles of existing access roads would be upgraded and maintained and 1½ miles of new road constructed.

In T. 3 S., R. 1 E., section 12, 25 mining claims are mostly in the south and west halves of the section. One small mine and two exploratory operations would be developed in the southwest quarter with surface disturbance less than five acres for each operation. Two miles of existing access would be upgraded and maintained and 1/2 mile of new road constructed.

In T. 3 S., R. 1 E., section 11, 48 mining claims cover the entire section. There would be one small mine and one exploratory operation in the west and north halves. The one small mine would disturb five acres. The four miles of existing roads would be upgraded and maintained and two miles of new roads constructed.

In T. 3 S., R. 1 E., section 10, 40 mining claims cover the entire section. One small-sized mining operation and two exploratory areas in the southern and western halves of the section would result in maintenance of three miles of existing roads and construction of one mile of new road. The mining operation would disturb 15 acres of surface.

In T. 2 S., R. 1 E., section 34, there are 10 claims. In the southeastern quarter one exploratory operation developed would disturb one or two acres of surface. One-half mile of existing road would be upgraded with no new access roads necessary.

In T. 2 S., R. 1 E., section 33, the 22 claims would result in one exploration operation that would disturb over two acres in the south half. The access roads would be maintained.

In T. 2 S., R. 1 E., section 28, 11 claims would result in one exploratory operation disturbing less than one acre in the northeast quarter. One mile of upgraded road would provide access.

In T. 2 S., R. 1 E., section 19, seven claims would result in one exploratory operation in the northeast quarter that would disturb less than one acre of surface. Access would be on existing roads.

In T. 2 S., R. 1 E., section 20, eight claims would result in one exploratory operation in the southwest quarter disturbing less than one-half acre. Existing roads would be used.

LAND USE ACTIONS

If the area is not designated as wilderness, the one temporary communication site authorized under the *Interim Management Policy* would become permanent. Another six to ten communication sites could be anticipated. Because of the rough terrain there would be no road or powerline anticipated to service the site. The sites would consist of a small low building and a tower for each.

RECREATION USES

Under this alternative, the Sierra Estrella WSA would remain open to recreational uses, including hunting, hiking and rock collecting. Although not restricted, ORV use would be confined to the existing 2.5 miles of vehicle ways and to dry washes due to the ruggedness of the terrain.

Recreational use in the WSA is currently about 1,200 motorized and 700 nonmotorized VDY. An increase to 1,500 motorized and 500 nonmotorized VDY is anticipated. See Table 2-2 for visitor use by alternative.

WILDLIFE MANAGEMENT ACTIONS

Montezuma and Butterfield Tanks will require maintenance and improvement to benefit desert bighorn sheep and other desert wildlife. This will include enlargement of the masonry dams and installation of shades and gabions to increase storage, reduce evaporation and divert silt, respectively. This will be done in a nonimpairing manner.

No other resource actions or uses are anticipated.

RAGGED TOP WSA

(AZ-020-197)

Proposed Action/No Wilderness Alternative (Map 2-15)

The *Proposed Action/No Wilderness* alternative for the Ragged Top WSA would return 4,460 acres to other multiple use management uses.

The following uses and actions are anticipated.

MINERALS ACTIONS

Expected are two exploration programs, two small mines and up to two miles of new or upgraded roads. The roads would disturb three acres and the mines 14 acres. Mining interests would be encouraged to minimize damage to the wildlife habitat and other resources. Mining activity would be expected in the southwestern portion of the WSA in the N½ of sections 25 and 26 in T. 11 S., R. 8 E.

RANGELAND MANAGEMENT ACTIONS

No changes in levels of livestock use are proposed for any of the three allotments that overlap this WSA. If monitoring studies data indicate changes or adjustments in livestock use or other multiple uses are needed, a coordinated resource plan may be developed. This plan would be a component of the overall Habitat Management Plan for the Silver Bell planning unit.

No new range improvements are proposed within the WSA boundary. Maintenance of 1.75 miles of fence would continue, using customary methods.

RECREATION USE ACTIONS

Visitor use in this WSA may be expected to increase to 1,750 VDY from 1,400 in the long term, mostly ORV use and mostly the result of urban growth in the city of Tucson and surrounding communities. Other recreational uses such as hiking, hunting, rock climbing, birdwatching and desert study would continue. See Table 2-2 for visitor use by alternative.

WILDLIFE MANAGEMENT ACTIONS

No new wildlife developments are proposed, but wildlife modifications to 1.75 miles of boundary fence would be part of the Habitat Management Plan for the area.

The existing wildlife water development would continue to be maintained on an as needed basis with access by vehicle, foot or helicopter if necessary.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-15)

This alternative would designate 4,460 acres of the Ragged Top WSA as wilderness.

The following uses and actions are anticipated under this alternative.

RANGELAND MANAGEMENT ACTIONS

No changes in levels of livestock use are proposed for any of the three allotments that overlap this WSA. Any future livestock adjustments would be based on monitoring data which indicated availability of additional forage.

No Allotment Management Plans (AMPs) would be developed for any of the allotments.

No new range improvements are proposed and maintenance of 1.75 miles of allotment boundary fence would be accessed by horse.

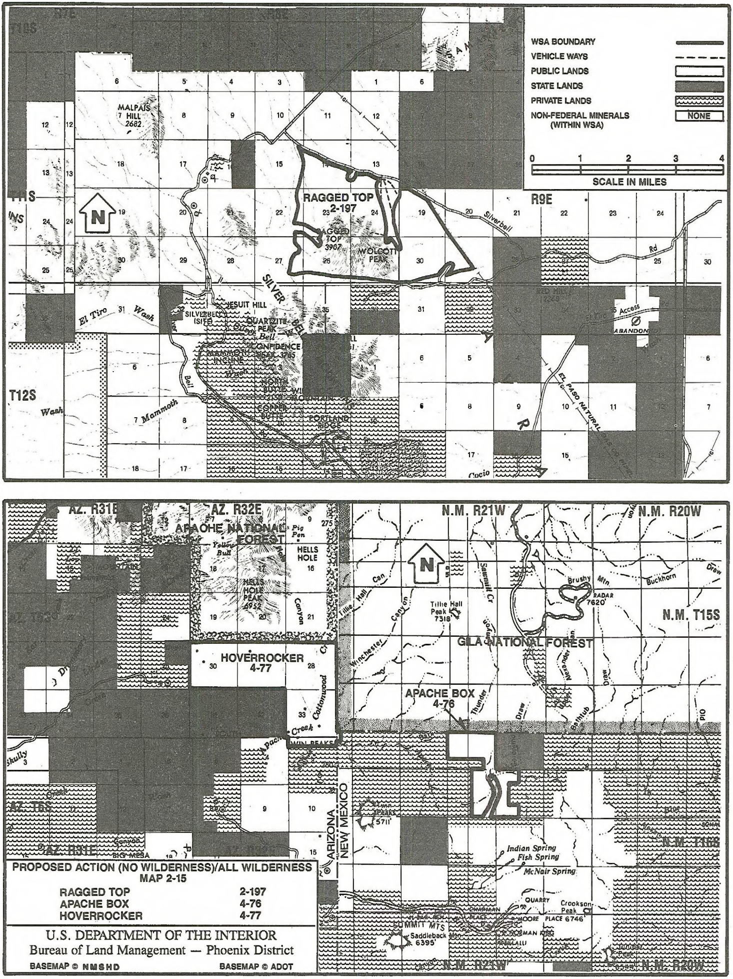
RECREATION USE ACTIONS

Visitor use would increase to 1,750 from the present 1,400 VDY. All use would be nonmotorized—hunting, hiking, horseback riding and birdwatching, as well as desert ecology studies sponsored by the University of Arizona and the International Biological Program. All ORV use would be eliminated within the WSA boundary. See Table 2-2 for visitor use by alternative.

WILDLIFE MANAGEMENT ACTIONS

No new wildlife developments are proposed within the WSA boundary. The existing wildlife development (an 800-gallon storage tank, trough, rock dam and pipeline) would be maintained once or twice a year as needed. Access would be by foot or helicopter if necessary.

No other resource actions or uses are anticipated.



PROPOSED ACTION (NO WILDERNESS)/ALL WILDERNESS
MAP 2-15

RAGGED TOP	2-197
APACHE BOX	4-76
HOVERROCKER	4-77

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © NMSHD BASEMAP © ADOT

APACHE BOX WSA

(AZ-040-76)

Proposed Action/No Wilderness Alternative (Map 2-15)

The *Proposed Action/No Wilderness* alternative for the Apache Box WSA would return 932 acres to other multiple use management.

The following uses and actions are anticipated.

MINERALS ACTIONS

One exploration program would be in the canyon portion of the WSA in an area where previous activity disturbed one acre. Access would be by a one-mile long cherry-stemmed road built for the previous exploration activity. Total disturbance would be two acres.

RECREATION USE ACTIONS

Recreation use would increase to 60 VDYs—mostly in nonmotorized recreation activities (day hiking, nature appreciation and sightseeing). See Table 2-2 for visitor use by alternative.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-15)

All of the Apache Box WSA's 932 acres would be designated wilderness and the following would occur. This alternative is dependent upon the designation of the Forest Service's Hell Hole WSA.

The following actions and uses are anticipated.

RECREATION USE ACTIONS

Recreation use would all be nonmotorized and would increase to a total of 150 VDYs, with most of the increase in day hiking, nature appreciation and sightseeing. Recreation use would stay low due to a lack of travel routes to the contiguous Forest Service lands. See Table 2-2 for visitor use by alternative.

No other resource actions or uses are anticipated.

HOVERROCKER WSA

(AZ-040-77)

Proposed Action/No Wilderness Alternative (Map 2-15)

The *Proposed Action/No Wilderness* alternative for the Hoverrocker WSA would return 2,791 acres to other multiple use management.

The following uses and actions are anticipated.

RECREATION USE ACTIONS

Nonmotorized recreation use, primarily hunting and other motorized recreation, would increase to 50 VDYs per year. See Table 2-2 for visitor use by alternative.

No other resource actions or uses are anticipated.

All Wilderness Alternative (Map 2-15)

All of the WSA's 2,791 acres would be designated wilderness under the *All Wilderness* alternative. This alternative depends on designation of the Forest Service's Hell Hole WSA.

The following actions and uses are anticipated.

RECREATION USE ACTIONS

Recreation use would be all nonmotorized activities, such as sightseeing, day hiking, nature appreciation and hunting, would increase to 100 VDYs per year. Recreation use would stay low because of the lack of travel routes to the contiguous Forest Service lands. See Table 2-2 for visitor use by alternative.

No other resource actions or uses are anticipated.

TABLE 2-6
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

VAN DEEMAN (AZ-020-07) 1,510 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use, mining, and road construction would cause a impairment of wilderness values of naturalness, solitude and primitive opportunities on 100% of the WSA.	Wilderness designation under the *All Wilderness* alternative would not maintain any of the wilderness values of naturalness, solitude and primitive recreation across any part of the WSA.
Minerals Development	The *No Wilderness* alternative would allow mineral entry onto all of the federal minerals in the area and the exploration resulting in the development of five mines.	The *All Wilderness* would stop future exploration projects, but would not affect the development of two open-pit mines within the designated area.
Recreation Use	The *No Wilderness* alternative would displace all projected recreation use (50 VDY) to nearby public lands.	The *All Wilderness* alternative would displace all 30 VDY of projected recreation use (all nonmotorized) to nearby public lands.
Wildlife Values	1,510 acres (100% of WSA) of crucial bighorn sheep habitat and 1,510 acres of desert tortoise and Gila monster suitable habitat would be totally destroyed by mineral development, resulting in the loss of two desert bighorn. The desert tortoise and Gila monster would be totally eliminated from the WSA.	The *All Wilderness* alternative would protect 605 acres of crucial bighorn habitat, desert tortoise and Gila monster suitable habitat from further significant surface-disturbing activities. Because of valid existing mining rights, 905 acres of crucial bighorn habitat, and desert tortoise and Gila monster habitat would be destroyed. It is anticipated that bighorn would stop using the WSA and that mineral development would result in the loss of two bighorn. Van Deeman Tank would be destroyed as a bighorn water.
Cultural Resources	A prehistoric rock shelter and historical mine that probably exist would not be better protected.	A prehistoric rock shelter and historical mine that probably exist in this WSA would be better protected.

MOCKINGBIRD (AZ-020-08) 5,815 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use, mining, and road construction would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 52% of the WSA.	Wilderness designation under the *All Wilderness* alternative would not maintain the wilderness values of naturalness, solitude and primitive recreation across any of the WSA.
Minerals Development	The *No Wilderness* alternative would permit mineral entry on all federal minerals in the area and the exploration and development of one large and one medium open-pit mines.	The *All Wilderness* would preclude future exploration projects.
Recreation Use	Under the *No Wilderness* alternative, ten VDY of nonmotorized recreational use would be displaced because of mineral development.	Under the *All Wilderness* alternative much of the projected 30 VDY of nonmotorized recreational use would be displaced because of mineral development.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

MOCKINGBIRD (AZ-020-08) 5,815 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wildlife Values	150 acres of crucial bighorn habitat and 300 acres of suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.	The *All Wilderness* alternative would protect 3,376 acres of crucial bighorn habitat and 4,892 acres of desert tortoise and Gila monster suitable habitat from further significant surface-disturbing activities. Mineral development would adversely impact 624 acres of crucial bighorn habitat, desert tortoise and Gila monster habitat. The loss of one bighorn is anticipated.
Cultural Resources	Two prehistoric rock shelters and two historical mines that probably exist would not be better protected.	Additional protection would be provided for two prehistoric rock shelters and two historical mines that are probably present in this WSA.

BLACK MOUNTAINS NORTH (AZ-020-09) 19,900 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/PARTIAL WILDERNESS	PROPOSED ACTION/PARTIAL WILDERNESS
	Designated Area	Nondesignated Area
Wilderness Values	The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 95% of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from mining developments and motorized vehicle use.	Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use and expansion of an open-pit mine would not impair wilderness values on the entire 1,500 acres (8% of the entire WSA or 100% of the area returned to other resource uses).
Minerals Development	The *Proposed Action/Partial Wilderness* would limit the number of exploration projects, but would not impede the development of five open-pit mines and one underground development.	The *Proposed Action/Partial Wilderness* alternative would allow exploration and the development of any potential mines within the 1,500 acres of public land open to mineral development.
Recreation Use	The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 19,300 acres by displacing 100 VDY of motorized recreation use to nearby public lands.	The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 1,500 acres of the WSA.
Wildlife Values	The *Proposed Action/Partial Wilderness* would protect 12,935 acres of crucial bighorn habitat (includes 4,890 acres of lambing grounds), 8,435 acres of suitable peregrine habitat and 18,195 acres suitable desert tortoise and Gila monster habitat from further significant damage.	A total of 300 acres of crucial bighorn habitat, 300 acres of suitable peregrine habitat and 500 acres of suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.
Cultural Resources	Two prehistoric campsites, a prehistoric rock shelter and an historical mine that are probably present would be better protected.	

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

BLACK MOUNTAINS NORTH (AZ-020-09) 19,900 acres

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Wilderness Values	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 89% of the WSA by precluding motorized vehicle recreation and some mining.	The *No Wilderness* alternative would not prevent any vehicle use, mining, road construction and water catchments adverse impacts to wilderness values. As a result, motorized would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 58% of the WSA.
Minerals Development	*All Wilderness* would limit the number of exploration projects, but would not stop the development of five open-pit mines and one underground mine. Also, there are 10,260 acres in private mineral estate that would remain open for mineral exploration and development.	The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of four open-pit mines.
Recreation Use	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 19,900 acres and displace 450 VDY of motorized use.	Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.
Wildlife Values	The *All Wilderness* alternative would protect 13,695 acres of crucial bighorn habitat, 7,935 acres of suitable peregrine habitat, and 19,195 acres of suitable desert tortoise and Gila monster habitat from further significant surface disturbing activities. Mineral development would adversely impact 705 acres of crucial bighorn habitat, 1,210 acres of suitable peregrine habitat, and 705 acres of suitable desert tortoise and Gila monster habitat. The loss of four bighorn sheep is anticipated.	Under the *No Wilderness* alternative 14,400 acres of crucial bighorn habitat (includes 4,890 acres of lambing grounds), 8,640 acres of suitable peregrine falcon habitat, and 19,900 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction and mine exploration and development. Mine development would destroy 917 acres of crucial bighorn habitat, 1,212 acres of suitable peregrine habitat, and 1,212 acres of suitable desert tortoise and Gila monster habitat.
Cultural Resources	This alternative is essentially the same as the *Proposed Action/Partial Wilderness.*	Additional protection would not be provided for two prehistoric campsites, a prehistoric rock shelter and an historical mine that are probably not present.

BURNS SPRING (AZ-020-10) 30,600 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/PARTIAL WILDERNESS	PROPOSED ACTION/PARTIAL WILDERNESS
	Designated Area	**Nondesignated Area**
Wilderness Values	The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 87 percent of the designated portion of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from motorized vehicle use.	Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use and mineral development would impair wilderness values on 62% of the undesignated portion of the WSA.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

BURNS SPRING (AZ-020-10) 30,600 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/PARTIAL WILDERNESS	PROPOSED ACTION/PARTIAL WILDERNESS
Minerals Development	The *Proposed Action/Partial Wilderness* alternative would preclude future exploration projects in the designated area.	The *Proposed Action/Partial Wilderness* alternative would allow exploration and the development of any potential mines within the 7,600 acres of public land open to mineral development.
Recreation Use	The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for nonmotorized use on 23,310 acres.	The *Proposed Action/Partial Wilderness* alternative would not affect recreation use on 7,600 acres of WSA.
Wildlife Values	The *Proposed Action/Partial Wilderness* would protect 15,220 acres of crucial bighorn habitat (including 4,120 acres of lambing grounds), 17,780 acres of suitable peregrine falcon habitat, 22,050 acres of suitable desert tortoise and Gila monster habitat from further significant surface-disturbing activities. Mineral development would adversely impact 600 acres of suitable Gila monster and desert tortoise habitat. The loss of one bighorn is anticipated.	The total of 610 acres of crucial bighorn habitat and 750 acres of desert tortoise and Gila monster habitat would be destroyed by mineral development. The loss of one desert bighorn is anticipated.
Cultural Resources	Two prehistoric rock shelters, two historical mines and a prehistoric campsite that are probably present would be better protected.	

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Wilderness Values	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 80 percent of the WSA by precluding motorized vehicle recreation and development.	The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction and water catchments would cause a loss of impairment of wilderness values of naturalness, solitude and primitive opportunities on 30% of the WSA.
Minerals Development	The *All Wilderness* would preclude future exploration projects.	The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of four open-pit mines.
Recreation Use	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 30,600 acres, and displace 200 VDY of motorized use.	Opportunities for recreation use would remain unchanged under the No Wilderness alternative.
Wildlife Values	The *All Wilderness* alternative would protect 16,360 acres of crucial bighorn habitat, 18,850 acres of suitable peregrine falcon habitat, and 29,051 acres of suitable desert tortoise and Gila monster habitats from further significant surface disturbing activities. Mineral development would result in surface disturbances that would adversely impact 1,550 acres of suitable desert tortoise and Gila monster habitat; this includes 600 acres of crucial desert bighorn habitat and 350 acres of suitable peregrine falcon habitat. The loss of one bighorn is anticipated.	Under the *No Wilderness* alternative 16,360 acres of crucial bighorn habitat (includes 4,120 acres of lambing grounds), 19,200 acres of suitable peregrine falcon habitat, and 30,600 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction, and mine exploration and development.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

BURNS SPRING (AZ-020-10) 30,600 acres

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Cultural Resources	This alternative is essentially the same as the Proposed Action/Partial Wilderness.	Additional protection would not be provided for two prehistoric rock shelters, two historical mines and a prehistoric campsite that are probably present.

MOUNT TIPTON (AZ-020-12/42 34,060 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/PARTIAL WILDERNESS	PROPOSED ACTION/PARTIAL WILDERNESS
	Designated Area	**Nondesignated Area**
Wilderness Values	The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 96 percent of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from mining developments, motorized vehicle use and the harvest of Mohave yucca.	Motorized vehicle use and establishment of an open-pit mine would impair wilderness values on 2,500 acres (42% of the area recommended for uses other than wilderness).
Minerals Development	The *Proposed Action/Partial Wilderness* would preclude future mineral exploration projects.	The *Proposed Action/Partial Wilderness* alternative would allow the development of mines within the 5,890 acres of public land open to mineral development.
Recreation Use	The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 28,170 acres by displacing 100 VDY of motorized recreation use to nearby public lands.	The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 5,890 acres of WSA.
Wildlife Values	The *Proposed Action/Partial Wilderness* would protect 27,820 acres of wildlife habitat, including 800 acres of suitable peregrine habitat and 22,186 acres of suitable Gila monster habitat from further significant surface-disturbing activities. Mineral development would impair 350 acres of Gila monster habitat.	A total of 600 acres of Gila monster habitat would be destroyed.
Vegetation Sales	The 280 acres of Mohave yucca would not be harvested.	
Cultural Resources	Prehistoric/historic camps and a rock shelter would receive protection from surface disturbances related to motor vehicle use.	

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS
Bureau of Land Management, Arizona

MOUNT TIPTON (AZ-020-12/42 34,060 acres

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Wilderness Values	The *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 92% of the WSA by precluding motorized vehicle recreation, harvest of Mohave yucca and some mining.	The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction, wildlife waters, range improvements, right-of-way road access development and Mohave yucca harvest would cause a loss of impairment of wilderness values of naturalness, solitude and primitive opportunities on 21% of the WSA.
Minerals Development	The *Proposed Action/All Wilderness* would preclude future exploration projects.	The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of two large open-pit mines on federal and private minerals impacting 1,207 acres.
Recreation Use	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 34,600 acres and displace 150 VDY of motorized use.	Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.
Wildlife Values	The *All Wilderness* alternative would protect 33,103 acres of wildlife habitat. This includes 8,000 acres of suitable peregrine habitat and 27,469 acres of suitable Gila monster habitat from further significant surface disturbing activities. Mineral development would impair 957 acres of suitable Gila monster habitat.	Under the *No Wilderness* alternative 8,000 acres of suitable peregrine falcon habitat and 28,426 acres of suitable Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities, such as ORV use, road construction and mine exploration and development. Mine development would destroy 1,207 acres of suitable Gila monster habitat.
Vegetation Sales	The 280 acres of Mohave yucca would not be harvested.	The 280 acres of Mohave yucca would be harvested.
Cultural Resources	This alternative would have the same results as the *Proposed Action/Partial Wilderness* since all of the known cultural resources were included in the partial area recommended for designation.	Prehistoric/historic camps and a rock shelter would be subject to impairment from such surface disturbance as mineral and road development and recreational ORV use.

GRAPEVINE WASH (AZ-020-14) 2,200 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, and road construction would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 100 percent of the WSA.	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across all of the WSA by precluding a mining operation and excluding motorized recreation.
Minerals Development	The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of one medium open-pit mine.	*All Wilderness* would stop the development of one medium open pit mine employing 25 people.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS
Bureau of Land Management, Arizona

GRAND WASH CLIFFS (AZ-020-15) 12,176 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Recreation Use	Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.	The *All Wilderness* alternative would not change existing opportunities for nonmotorized use on 2,200 acres.
Wildlife Values	Under the *No Wilderness* alternative 2,200 acres of crucial bighorn and suitable Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction and mine exploration and development. Mine development would destroy 302 acres of crucial bighorn and 302 acres of suitable Gila monster habitat.	The *All Wilderness* alternative would protect 2,200 acres of crucial bighorn habitat and 2,200 acres of suitable Gila monster habitat from further significant surface-disturbing activities.
Cultural Resources	Two roasting pit sites would not be protected from ORV use, vandalism and mineral development.	Two roasting pit sites would be better protected under this alternative.

MOUNT DAVIS (AZ-020-21) 2,560 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction and water catchments would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 25% of the WSA.	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 75% of the WSA by precluding motorized vehicle recreation and some mining.
Minerals Development	The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and allow the exploration and development of one medium sized open-pit mine.	*All Wilderness* would preclude future mineral exploration projects.
Recreation Use	Opportunities for recreation use would remain unchanged in 75% of the WSA, and ORV recreation opportunities would be enhanced in section 30.	The *All Wilderness* alternative would not change existing opportunities for nonmotorized use on 2,560 acres.
Wildlife Values	Under the *No Wilderness* alternative 2,460 acres of crucial bighorn habitat and 2,560 acres of suitable desert tortoise and Gila monster habitat would be degraded because of increased surface-disturbing activities, such as ORV use, road construction, and mine exploration and development. Mine development would destroy 300 acres of crucial bighorn habitat and 300 acres of suitable desert tortoise and Gila monster habitat.	The *All Wilderness* alternative would protect 2,160 acres of crucial bighorn habitat, and 2,260 acres of desert tortoise and Gila monster habitat from further significant surface disturbing activities. Because of valid existing mining rights, 300 acres of crucial bighorn habitat and 300 acres of desert tortoise and Gila monster habitat would be destroyed. The loss of one bighorn is anticipated.
Cultural Resources	Two prehistoric campsites and a prehistoric rock shelter that are probably present would not be better protected.	Two prehistoric campsites and a prehistoric rock shelter would be better protected.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

MOUNT NUTT (AZ-020-24) 29,190 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/PARTIAL WILDERNESS	PROPOSED ACTION/PARTIAL WILDERNESS
	Designated	**Nondesignated**
Wilderness Values	The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 84.6% of the designated portion of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from motorized vehicle use and the harvest of Mohave yucca.	Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use and water catchment construction would impair wilderness values on the undesignated portion of the WSA.
Minerals Development	The *Proposed Action/Partial Wilderness* would limit the number of exploration projects, but would not impede the development of four open-pit mines and one underground mine.	The *Proposed Action/Partial Wilderness* alternative would not prevent the development of any potential mines within the 1,980 acres of public land open to mineral development.
Recreation Use	The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 27,210 acres by displacing 1,500 VDY of motorized recreation use to nearby public lands.	The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 1,980 acres of WSA.
Wildlife Values	The *Proposed Action/Partial Wilderness* would protect 26,780 acres of wildlife habitat—20,310 acres of crucial bighorn habitat (including 8,000 acres of lambing grounds), 22,770 acres of suitable peregrine falcon habitat, and 26,780 acres of desert tortoise and Gila monster suitable habitat—from further significant surface-disturbing activities. Mineral development would impair 156 acres of special-status wildlife habitat. This includes 156 acres of crucial desert bighorn habitat and 125 acres of suitable peregrine falcon habitat. The loss of two bighorn is anticipated.	A total of 215 acres of crucial bighorn habitat, suitable peregrine habitat, and suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.
Vegetative Sales	A total of 960 acres of Mohave yucca would be protected from harvest.	A total of 120 acres of Mohave yucca would harvested.
Cultural Resources	Bighorn Cave, a rock shelter, and pictograph and petroglyph sites would be better protected. Future archaeological work at the Bighorn Cave might be more difficult.	

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Wilderness Values	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 84.7% of the WSA by precluding motorized vehicle recreation and the harvest of Mohave yucca.	The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction, range improvement projects, Mohave yucca harvest, pipeline maintenance and archeological excavations would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 25.6% of the WSA.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

MOUNT NUTT (AZ-020-24) 29,190 acres

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Minerals Development	The *All Wilderness* designation would limit exploration and mining in the designated areas, but would not stop the development of two medium sized mines and four small open-pit mines, and one medium sized underground mine on valid discoveries or private minerals. Nor would it prevent mineral exploration and development on 9,914 acres of private mineral estate.	The *No Wilderness* alternative would permit mineral entry on federal minerals in the area and allow the exploration and development of one large, one medium sized and four small open-pit mines, and one medium underground mine to be developed on federal and private minerals.
Recreation Use	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 29,190 acres by closing the area to and displacing 1,600 VDY of motorized recreation use.	Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.
Wildlife Values	The *All Wilderness* alternative would protect 28,329 acres of wildlife habitat. It will protect 22,960 acres of crucial bighorn habitat (this includes 8,000 acres of lambing grounds), 25,920 acres of suitable peregrine falcon habitat and 28,329 acres of suitable desert tortoise and Gila monster habitat from further significant surface-disturbing activities. Mineral development would impair 858 acres of crucial desert bighorn habitat, suitable peregrine falcon, and suitable desert tortoise and Gila monster habitat.	Under the *No Wilderness* alternative 22,960 acres of crucial bighorn habitat, 25,920 acres of suitable peregrine falcon habitat, and 29,190 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturing activities such as ORV use, road construction and mine exploration and development. Mine development would destroy 1,163 acres of crucial bighorn habitat, 1,230 acres of suitable peregrine habitat and 1,163 acres of suitable desert tortoise and Gila monster habitat.
Vegetative Sales	A total of 1,080 acres of Mohave yucca would be protected from harvest.	A total of 1,080 acres of Mohave yucca would be harvested.
Cultural Resources	Impacts under this alternative is the same as under the *Proposed Action/Partial Wilderness* since all of the known cultural resources were included in the partial area recommended for designation.	Bighorn Cave, a rock shelter, and pictograph and petroglyph sites would be subject to impairment from surface disturbance related to ORV use and mining. Future excavations at Bighorn Cave would be allowed without restrictions.

ENVIRONMENTAL ISSUES	ENHANCED WILDERNESS	ENHANCED WILDERNESS
	Designated	**Nondesignated**
	The impacts analyzed would be the same as those described under the *Proposed Action/Partial Wilderness* alternative except for the following.	The impacts analyzed would be the same as those described under the *Proposed Action/Partial Wilderness.*
Wildlife Values	The *Enhanced Wilderness* alternative would protect 27,541 acres of wildlife habitat—20,700 acres of crucial bighorn habitat, 24,780 acres of suitable peregrine falcon habitat and 27,541 acres of suitable desert tortoise and Gila monster habitat.	Because of valid existing mining rights 156 acres of crucial bighorn habitat, 125 acres of suitable peregrine habitat and 156 acres of suitable desert tortoise and Gila monster habitat would be destroyed. The loss of one bighorn sheep is anticipated.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

WARM SPRINGS (AZ-020-28/29) 114,800 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/PARTIAL WILDERNESS	PROPOSED ACTION/PARTIAL WILDERNESS
	Designated Area	**Nondesignated Area**
Wilderness Values	The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 92.5 percent of the designated portion of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from motorized vehicle use, some mining activity and the harvest of Mohave yucca.	Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use would impair wilderness values on 32.4 percent of the undesignated portion of the WSA.
Minerals Development	The *Proposed Action/Partial Wilderness* would limit exploration projects, but allow the development of five mines within the designated area.	The *Proposed Action/Partial Wilderness* alternative would allow development of any potential mines on 24,200 acres of public land.
Recreation Use	The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 96,300 acres by displacing 450 VDY of motorized recreation use to nearby public lands.	The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 24,200 acres of the WSA.
Wildlife Values	The *Proposed Action/Partial Wilderness* would protect 89,745 acres of wildlife habitat—66,985 acres of crucial bighorn habitat, 5,120 acres of suitable peregrine habitat and 89,745 acres of suitable desert tortoise and Gila monster habitat. Mineral development would impair 455 acres of crucial bighorn habitat and 455 acres of suitable desert tortoise and Gila monster habitat. The loss of two bighorn is anticipated.	In this area 24,200 acres of wildlife habitat including 8,960 acres of crucial bighorn habitat, and 24,200 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface disturbing activities such as ORV use, road construction and mine exploration and development.
Vegetative Sales	A total of 2,910 acres of Mohave yucca would be protected from harvest.	
Cultural Resources	Petroglyphs and temporary camp sites would be better protected.	

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Wilderness Values	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 93.3% of the WSA by precluding motorized vehicle recreation, some mining activity and the harvest of Mohave Yucca.	The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use, mining and associated road construction, range improvement projects and Mohave yucca harvest would cause a loss of impairment of the wilderness values of naturalness, solitude and primitive recreation opportunities on 22.4 percent of the WSA.
Minerals Development	The *All Wilderness* alternative would limit the number of exploration projects, but would allow the development of four open-pit mines and two underground mine disturbing approximately 1,155 acres. The 58,079 acres of private mineral estate would remain open for mineral exploration and development.	The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and allow the exploration and development of eight mines.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

WARM SPRINGS (AZ-020-28/29) 114,800 acres

ENVIRONMENTAL ISSUES	ALL WILDERNESS	NO WILDERNESS
Recreation Use	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 114,800 acres, and displace 450 VDY of motorized use.	Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.
Wildlife Values	The *All Wilderness* alternative would protect 113,395 acres of wildlife habitat—75,395 acres of crucial bighorn habitat (including all of the 7,040 acre lambing grounds); 5,120 acres of suitable peregrine habitat and 113,395 acres of suitable desert tortoise and Gila monster habitat—from further significant surface-disturbing activities. Mineral development would impair 957 acres of crucial bighorn habitat and 957 acres of desert tortoise and Gila monster habitat would be destroyed. The loss of two bighorn is anticipated.	Under the *No Wilderness* alternative 76,800 acres of crucial bighorn habitat (includes 7,040 acres of lambing grounds), 5,120 acres of suitable peregrine falcon habitat, and 114,800 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would be degraded because of increased surface-disturbing activities, such as ORV use, road construction and mine exploration and development. Mine development would destroy 1,755 acres of crucial bighorn habitat and 2,250 acres of suitable desert tortoise and Gila monster habitat. The loss of two desert bighorn is anticipated.
Vegetation Values	A total of 2,910 acres of Mohave yucca would be protected from harvest.	A total of 2,930 acres of Mohave yucca would be harvested.
Cultural Resources	This alternative is the same as *Proposed Action/Partial Wilderness.*	Petroglyphs and temporary camp sites would not be protected.

ENVIRONMENTAL ISSUES	ENHANCED WILDERNESS	ENHANCED WILDERNESS
	Designated Area	**Nondesignated Area**
	The impacts analyzed would be the same as those described under the *Proposed Action/Partial Wilderness* alternative except for the following.	The impacts analyzed would be the same as those described under the *Proposed Action/Partial Wilderness.*
Wildlife Values	The *Enhanced Wilderness* alternative would protect 27,541 acres of wildlife habitat—20,700 acres of crucial bighorn habitat, 24,780 acres of suitable peregrine habitat and 27,541 acres of suitable desert tortoise and Gila monster habitat. Because of valid existing mining rights 156 acres crucial bighorn habitat, 125 acres of suitable per habitat and 156 acres of suitable desert tortoise Gila monster habitat would be destroyed. The loss of one bighorn is anticipated.	

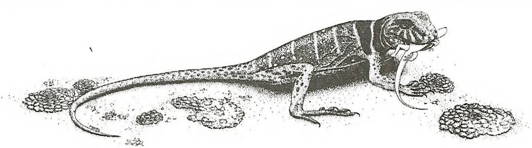


TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

SOUTH BRADSHAWS EAST (AZ-020-84A) 640 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The impairment of naturalness, solitude and primitive recreation would occur over the entire WSA (640 acres). The impact from the anticipated mineral development would deteriorate wilderness values over the entire WSA.	Designation of the South Bradshaws WSA would preserve wilderness values over the entire WSA by precluding mineral development. The unit's opportunities for solitude and primitive recreation, as well as the scenic character of the area, would be enhanced by the adjacent Castle Creek Wilderness Area in the Prescott National Forest.
Mineral Development	This alternative would allow mineral development on federal minerals within the unit—one exploration program and one small mine.	The *All Wilderness* alternative would preclude one exploration program and the development of one small mine.
Recreation Uses	Under this alternative overall recreation use would remain at 100 visitor days/year. The types and patterns of recreation use (motorized vs. nonmotorized) would shift as access to the mineral activity is developed.	Wilderness designation under this alternative would increase nonmotorized recreation use by 50 percent to 150 visitor days/year as a result of increased wilderness awareness.
Wildlife Values	This alternative would allow mineral development to reduce the area's chaparral habitat by two percent or 10 acres but would not significantly impact wildlife in the long term.	Designation would prevent the loss of 10 acres of chaparral habitat.
Cultural Values	Vandalism and erosion would endanger one potential *National Register* site because of increased mining activity and motorized access.	One potential *National Register* quality site would benefit by the elimination of motorized access and the resulting vandalism and erosion.

SIERRA ESTRELLA (AZ-020-160) 14,830 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/ALL WILDERNESS	NO WILDERNESS
Wilderness Values	Wilderness designation would maintain the existing wilderness values of naturalness, solitude and primitive recreation on 96 percent of the WSA by precluding much potential new mining and right-of-way development. Potential mining on claims with proven discoveries would impair wilderness values on four percent of the WSA, but would not influence wilderness values elsewhere.	Surface disturbances associated with mining and rights-of-way construction in the WSA's southwestern quarter and western area would result in direct or cumulative loss or impairment of wilderness values of naturalness, primitive recreation and solitude on 25 percent of the WSA. Wilderness values in the rugged interior hills (75 percent of the WSA) would remain unaffected by nondesignation because no development is anticipated.
Mineral Resources	This alternative would deny 13 exploratory and two small mine operations, but two small mine operations would be allowed.	This alternative would allow mineral entry on the federal mineral estate, thus allowing 13 exploratory and four small mine operations to be developed.
Recreation Uses	Designation under this alternative would change the types of recreation use taking place in the WSA from a mix of motorized and nonmotorized recreation to all nonmotorized recreation.	The *No Wilderness* alternative would allow motorized use to increase by 25 percent and nonmotorized to increase by 67 percent.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS

Bureau of Land Management, Arizona

SIERRA ESTRELLA (AZ-020-160) 14,830 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/ALL WILDERNESS	NO WILDERNESS
Wildlife Values	This alternative would prevent the degradation of 79% of the desert tortoise habitat and the loss of 135 adults and also prevent the degradation of 75% of bighorn sheep habitat and the loss of five adult sheep.	The *No Wilderness* alternative would allow mining and increased visitor use to degrade desert tortoise and bighorn sheep habitat, causing the loss of 180 adult tortoise and ten adult sheep.
Cultural Resources	Designation would reduce the potential for vandalism to a *National Register* quality site because of the elimination of vehicle-based visitation and the restrictions on mining activities, road upgrade and road construction.	Nondesignation would result in an increased potential for vandalism on the one known *National Register* quality site because of the higher vehicle-based visitation rate.
Land Uses	This alternative would not allow new communication sites to be developed and the existing site would be removed.	The existing temporary communication site would remain and six to ten anticipated communication sites would be developed.

RAGGED TOP (AZ-020-197) 4,460 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The anticipated mining activity and increased motorized vehicle use would result in the further deterioration of wilderness values over 21 percent of the WSA. The remainder of the unit would not be greatly affected by the mineral development. This area would be subject to increased motorized recreation resulting in a significant decrease in wilderness experience opportunities.	Wilderness designation would maintain the naturalness and opportunities for solitude and primitive recreation for about 750 acres in the southwestern portion of the WSA by precluding mineral development and road construction.
Mineral Development	This alternative would allow mineral entry on 4,460 acres of the WSA. This would allow two exploration programs and two small mines.	This alternative would deny two exploration programs and two small mines.
Recreation Uses	Visitor use days/year would increase to approximately 1,750 from the current level of 1,400 VDY as a result of increased motorized recreation in the area.	Designation under the *All Wilderness* alternative would change the types of recreation use taking place in the WSA from a mix of motorized and nonmotorized recreation to all nonmotorized. The projected visitor use is expected to increase by 350 visitor use days/year, primarily due to increased popularity of the area.
Wildlife Values	Under the *No Wilderness* alternative 600 acres of crucial bighorn sheep habitat would be degraded. About 20 acres of mining-related surface disturbance would occur and an additional 30 acres of crucial desert tortoise and Gila monster habitat would be degraded.	Designation of this WSA would protect 4,460 acres of crucial desert bighorn sheep, desert tortoise and Gila monster habitat. All three state-listed species would benefit from prohibiting motorized vehicle use and mineral development in the WSA.
Cultural Values	Under nondesignation, the potential for vandalism and erosion to occur to a *National Register* quality site would increase as a result of the increase in vehicle based visitation.	Wilderness designation will beneficially affect one potential *National Register* site as well as all cultural resources present in the WSA by eliminating motorized visitation and the resulting vandalism and erosion.

TABLE 2-6 (Continued)
SUMMARY OF IMPACTS
Bureau of Land Management, Arizona

APACHE BOX (AZ-040-76) 932 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use and mining exploration activity would cause a loss or impairment of the wilderness values of naturalness, solitude and primitive opportunities on about 100 acres of the WSA.	Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across the WSA.
Minerals Development	The *No Wilderness* alternative would allow mineral entry onto all of the federal minerals in the area.	The *All Wilderness* alternative would stop future exploration projects but would not affect mineral production since none is expected.
Recreation Use	Opportunities for recreation use would not change under the *No Wilderness* alternative.	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 932 acres.
Cultural Resources	Nondesignation would result in continued and new adverse impacts resulting from construction, mining and visitor use.	Designation would have a beneficial effect on the cultural resources be restricting or prohibiting impact causing activities.

HOVERROCKER (AZ-040-77) 2,791 acres

ENVIRONMENTAL ISSUES	PROPOSED ACTION/NO WILDERNESS	ALL WILDERNESS
Wilderness Values	The *No Wilderness* alternative would not impact wilderness values.	Wilderness designation under the *All Wilderness* alternative would adversely maintain the wilderness values of naturalness, solitude and primitive recreation across the entire WSA.
Recreation Use	Opportunities for recreation use would not change under the *No Wilderness* alternative.	The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 2,791 acres.
Cultural Resources	Nondesignation could result in adverse impacts from vandalism.	

Chapter 3

AFFECTED ENVIRONMENT

CHAPTER III

AFFECTED ENVIRONMENT

INTRODUCTION

Chapter 3 describes those resources that might be impacted by implementing the *Proposed Action* or the alternatives. Descriptions are only as detailed as needed for the reader to understand the effects of implementing the *Proposed Action* or the alternatives. Where impacts to resources would be slight or nonexistent, descriptions are brief or are omitted.

More detailed descriptions of the resources in the EIS area are in the planning documents for the areas. Copies of these documents may be reviewed in the Phoenix and Safford District offices and in the Kingman Resource Area office.

VAN DEEMAN

(AZ-0200-07) 1,510 Acres

WILDERNESS VALUES

Location and Boundaries. The WSA is adjacent to the Lake Mead National Recreation Area, approximately 20 miles southeast of Hoover Dam. It is bounded by roads to the north, east and south, and the National Recreation Area (NRA) to the west. Access is via maintained gravel roads off route 93 to the east. The Van Deeman WSA is also contiguous with Unit C, a 15,145 acre area that has been recommended as a potential wilderness addition to the Lake Mead National Recreation Area (Lake Mead Preliminary Wilderness Proposal, USDI, National Park Service, January 1979, and *Draft Environmental Impact Statement, National Park Service/LMNRA*, April 1985).

Naturalness. The WSA is bisected by the Black Mountains, which run through the unit from north to south. The east portion of the Blacks within the WSA is gently sloping bajada, while the west slope is relatively precipitous and is cut by a number of washes. Elevations range from 3,324 feet at the crest of the Blacks to 2,320 feet in the southwest corner of the WSA. The vegetation within the WSA consists of Mohave desertscrub characterized by creosote, white bursage, Mohave yucca, wolfberry, buckwheat and ephedra. The WSA covers the precipitous west slope of the Blacks and some of the rolling hills and dissected plain to the west. Though less than 5,000 acres in size, the Van Deeman WSA meets the size criteria because it is contiguous with lands managed by another agency which have been formally determined to have potential wilderness values (NPS, Lake Mead National Recreation Area).

There are a few human imprints within the WSA. A vehicle way parallels the southern boundary for approximately .5 mile. Two wildlife water developments consist of two separate masonry dam/pothole catchments, designed to blend into their surroundings. Both the vehicle way and the water catchments are substantially unnoticeable and do not detract from the apparent naturalness of the unit. Mining activity in the WSA lately involved exploratory trenching within Horseshoe Canyon in the WSA's central portion, and an access trail through the southern and western portions of the WSA. This activity was short term and has been reclaimed, but is still visible in this portion of the WSA. The access trail has naturally rehabilitated to a point where it is largely unnoticeable.

Solitude. The WSA does contain some opportunities for solitude. The complex topography of the west slope of the Blacks provides screening from the sights and sounds of others within the area, and there are numerous secluded places. These opportunities could not be considered outstanding however because of the small size of the WSA (roughly one mile in width and three miles in length), but they are outstanding in conjunction with the contiguous 15,145 acre National Park Service potential wilderness addition.

Primitive and Unconfined Recreation. There are opportunities for several types of primitive recreation within the Van Deeman WSA. These include hiking, photography and sightseeing for zoological and geological features. The mosaic of colors and shapes in the volcanic hills along this west slope of the Blacks provides opportunities for viewing and photography, and visitors have the chance of viewing bighorn sheep and other wildlife. These opportunities are considered outstanding but only in conjunction with the contiguous Park Service potential wilderness addition to the west. There is a definite sense of unconfinement and expansiveness within the WSA.

Special Features. Three wildlife species in the WSA are listed as Threatened and Unique Wildlife of Arizona. The desert tortoise and bighorn sheep are described as species whose status in Arizona may be in jeopardy in the foreseeable future. The Gila monster is a Federal Candidate Category 2 Species.

MINERALS AND ENERGY RESOURCES

As of August 26, 1986, there were 139 active placer and lode mining claims effectively covering the entire Wilderness Study Area (WSA). Historical mining and active exploration exists within all of the 1,550 acres of this WSA. The Bureau was informed of a pending Mining Plan of Operations for drilling to be filed by Fischer-Watt for the Horseshoe Canyon Area centrally located in the WSA. All current drilling is concentrated adjacent to the south and southeast boundaries of the WSA.

The WSA has produced gold and silver from quartz veins and recent studies have disclosed a mineralized zone associated with the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Van Deeman WSA, along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. The entire WSA has high potential for gold and silver mineral development. See Map 3-1 for mineral potential, Table 3-1 for high and moderate mineral potential.

The Van Deeman WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

RECREATION USES

This small WSA has few natural amenities that would attract users seeking primitive and unconfined (nonmotorized) types of recreational pursuits. This WSA is quite remote from population centers. Several larger, topographically complex and accessible areas likely to attract the available pool of both nonmotorized and motorized users lie to the north and south of the unit in the Black Mountains. This WSA contains an approximately .5 mile long vehicle way which receives only sporadic use. Motorized and nonmotorized use is about 20 VDY for each.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type throughout the unit. This area supports approximately 230 vertebrate species of which 19 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM 1977).

This area is part of the range of the Black Mountains desert bighorn sheep population and is contiguous to the Lake Mead National Recreation area which supports high densities of sheep. This WSA contains 1,510 acres of crucial bighorn sheep habitat (Table 3-3 and Map 3-2). There are up to two sheep within this WSA (Table 3-2).

Suitable habitat for the desert tortoise and Gila monster exists throughout the unit. Suitable habitat for the Gilbert's skink is found throughout the unit in dry and wet canyons in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the WSA coming in from nearby Sacramento Valley. Crucial habitats or population numbers for these five species are unknown. Population numbers and ranges of the 13 other special-status species are not known.

CULTURAL RESOURCES

Although no sites are known to exist in this WSA, this is likely a result of the low level of inventory that has been completed. Areas adjacent to the WSA suggest that at least two sites are present that are potentially eligible for the *National Register of Historic Places*. These sites are probably a rock shelter with prehistoric material and at least one historical mine.

LAND USES

The WSA has 1,510 acres of public land. There are no nonfederal holdings within the WSA. The western boundary of the unit is formed by the Lake Mead National Recreation Area.

VEGETATION

The vegetation of this area is characteristic of the creosote bush-Yucca association (Brown, et al. 1979) of the Mohave desertscrub formation. No formal botanical inventories have been conducted, however, suitable habitat for desert cassia and horsebrush (Table 3-4) is in the WSA.

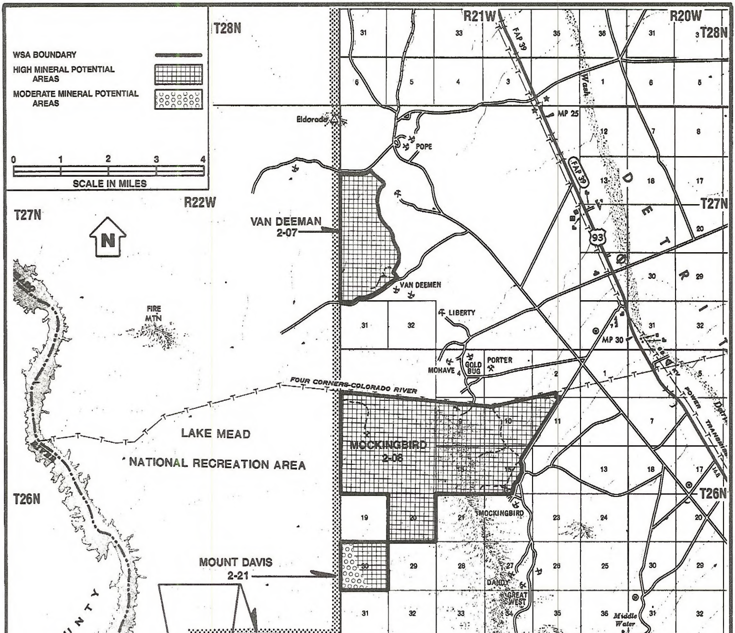
MOCKINGBIRD WSA

(AZ-020-08) 5,815 acres

WILDERNESS VALUES

Location and Boundaries. The WSA is adjacent to the Lake Mead National Recreation Area, approximately 25 miles southeast of Hoover Dam.

The WSA is bounded by the Four Corners-El Dorado 500 kV power transmission line to the north, roads to the east, private and state land to the south and the National Recreation Area (NRA) to the west. Access is via gravel roads off route 93 to the east. The WSA is contiguous with Unit 5 (Black Mountains) of the Lake Mead National Recreation Area (*Draft Environmental Impact Statement, National Park Service*, April 1985).



MINERAL POTENTIAL AREAS MAP 3-1

VAN DEEMAN	2-07
MOCKINGBIRD	2-08
MOUNT DAVIS	2-21

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

TABLE 3-1
MINERAL POTENTIAL

Bureau of Land Management, Arizona

		Designated Acres		Nondesignated Acres	
		Mineral Acres		Mineral Acres	
WSA	ALTERNATIVE	High Potential	Moderate Potential	High Potential	Moderate Potential
Van Deeman	Proposed Action (No Wilderness)	0	0	1,510	0
(AZ-020-07)	All Wilderness	1,510	0	0	0
Mockingbird	Proposed Action (No Wilderness)	0	0	5,595	220
(AZ-020-08)	All Wilderness	5,595	220	0	0
Black Mountains	Proposed Action (Partial Wilderness)	18,162	238	1,500	0
North	All Wilderness	19,662	238	0	0
(AZ-020-08)	No Wilderness	0	0	19,662	238
Burns Spring	Proposed Action (Partial Wilderness)	8,000	14,130	5,440	3,030
(AZ-020-10)	All Wilderness	13,440	17,160	0	0
	No Wilderness	0	0	13,440	17,160
Mount Tipton	Proposed Action (Partial Wilderness)	3,520	24,650	3,200	2,690
(AZ-020-12/42)	All Wilderness	6,720	27,340	0	0
	No Wilderness	0	0	6,720	27,340
Grapevine Wash	Proposed Action (No Wilderness)	0	0	640	1,560
(AZ-020-14)	All Wilderness	640	1,560	0	0
Grand Wash Cliffs	Proposed Action (No Wilderness)	0	0	11,536	640
(AZ-020-15)	All Wilderness	11,536	640	0	0
Mount Davis	Proposed Action (No Wilderness)	0	0	1,920	640
(AZ-020-21)	All Wilderness	1,920	640	0	0
Mount Nutt	Proposed Action (Partial Wilderness)	12,740	14,470	1,980	0
(AZ-020-24)	All Wilderness	14,263	14,470	0	0
	Enhanced Wilderness	12,660	15,200	1,980	0
	No Wilderness	0	0	14,263	14,470
Warm Springs	Proposed Action (Partial Wilderness)	25,300	65,300	6,700	17,500
(AZ-020-28/29)	All Wilderness	32,000	82,800	0	0
	Enhanced Wilderness	25,300	65,940	6,700	17,440
	No Wilderness	0	0	32,000	82,800
South Bradshaws East	Proposed Action (No Wilderness)	0	0	0	640
(AZ-020-84A)	All Wilderness	0	640	0	0
Sierra Estrella	Proposed Action (All Wilderness)	3,210	4,030	0	0
(AZ-020-160)	No Wilderness	0	0	3,000	3,650
Ragged Top	Proposed Action (No Wilderness)	0	0	0	4,460
(AZ-020-197)	All Wilderness	0	4,460	0	0
Apache Box	Proposed Action (No Wilderness)	0	0	0	932
(AZ-040-76)	All Wilderness	0	932	0	0
Hoverrocker	Proposed Action (No Wilderness)	0	0	0	2,791
(AZ-040-77)	All Wilderness	0	2,791	0	0

Source: Phoenix District and Safford District Files.

TABLE 3-2
SPECIAL STATUS WILDLIFE
Bureau of Land Management, Arizona

	Listed By		Wilderness Study Areas									
Species	Agency[1]	Status[2]	Van Deeman	Mocking-bird	Black Mountains North	Burn Spring	Mount Tipton	Grapevine Wash	Grand Wash Cliffs	Mount Davis	Mount Nutt	Warm Springs
Peregrine Falcon *(Falco peregrinus)*	F S	E III	—	—	0	0	0	—	X	—	0	0
Prairie Falcon *(Falco mexicanus)*	B	S	0	0	0	0	X	0	X	0	0	0
Merlin *(Falco columbarius)*	B	S	0	0	0	0	0	0	0	0	0	0
Swainson's Hawk *(Buteo swainsoni)*	F B	C S	0	0	0	0	X	0	0	0	0	0
Ferruginous Hawk *(Buteo regalis)*	F B	C S	0	0	0	0	X	0	X	0	0	0
Zone-tailed Hawk *(Buteo albonotatus)*	B	S	0	0	0	0	X	—	0	0	0	0
Sharp-shinned Hawk *(Accipiter striatus)*	B	S	0	0	0	0	X	—	0	0	0	0
Coopers Hawk *(Accipiter cooperii)*	B	S	0	0	0	0	X	0	0	0	0	0
Golden Eagle *(Aquila chrysaetos)*	B	S	X	X	X	X	X	X	X	X	X	X
Burrowing Owl *(Athene cunicularia)*	B	S	0	0	0	0	0	0	0	0	0	0
Great Egret *(Casmerodius albus)*	S	IV	0	0	0	0	0	—	0	0	0	0
Snowy Egret *(Egretta thula)*	S	IV	0	0	0	0	0	—	0	0	0	0
Black-Crowned Night Heron *(Nycticorax nycticorax)*	S	IV	0	0	0	0	0	—	0	0	0	0
Desert Tortoise *(Gopherus agassizi)*	F S	C III	0	0	0	0	—	—	—	0	0	0
Gilbert's Skink *(Eumeces gilberti)*	F S	C IV	0	0	0	0	0	—	0	0	0	0
Desert Night Lizard *(Xantusia vigilis)*	B	S	0	0	0	0	X	0	0	0	0	0
Gila Monster *(Heloderma suspectum)*	F B	C S	0	0	0	X	X	0	0	0	0	0
Desert Rosy Boa *(Lichanura trivirgata)*	B	S	0	0	0	0	X	—	0	0	0	0
Desert Bighorn *(Ovis canadensis)*	S	III	X	X	X	X	—	X	—	X	X	X
Kit Fox *(Vulpes macrotus)*	B	S	0	0	0	0	—	—	—	0	0	0
Goldroad Fonticellia *(Fonticellia sp.) (snail)*			—	—	—	—	—	—	—	—	X	X
TOTAL SPECIES			19	19	20	20	17	10	17	19	21	21

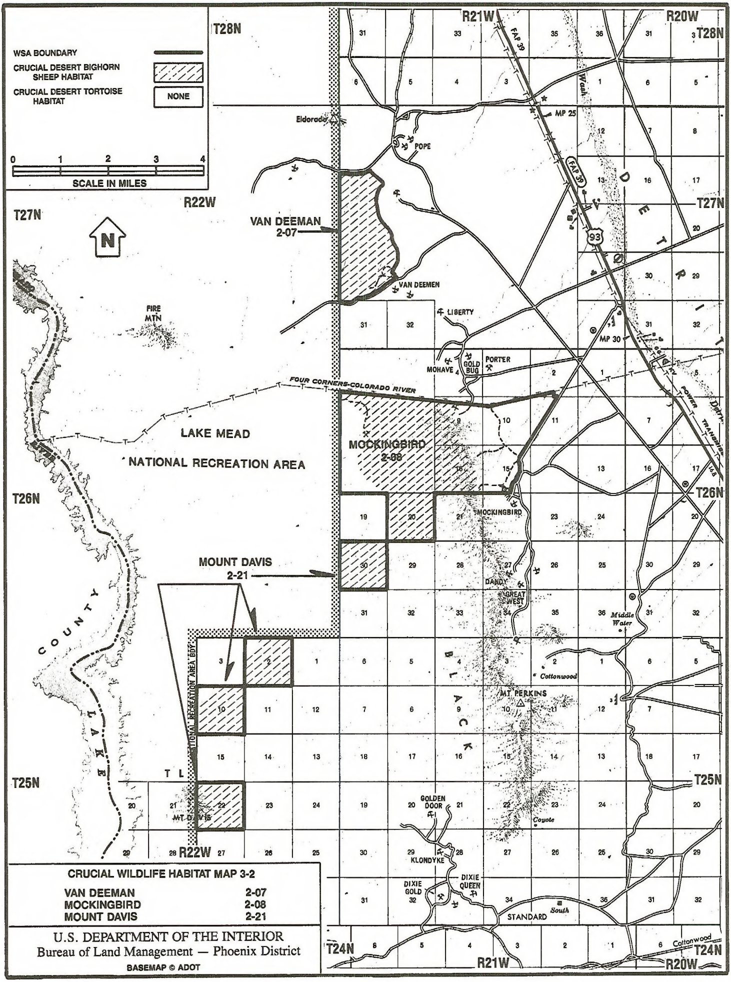
Key: X = verified; 0 = probable use

[1] F = U.S. Fish & Wildlife Service; S = Arizona Game and Fish Commission; B = Bureau of Land Management

[2] E = Endangered; C = Candidate Species (USFWS); S = Sensitive

I = Extirpated from Arizona.
II = In danger of being eliminated from Arizona.
III = Status in Arizona may be in jeopardy in the foreseeable future.
IV = Moderate threat to habitats occupied.

Source: Phoenix District Files



CRUCIAL WILDLIFE HABITAT MAP 3-2

VAN DEEMAN	2-07
MOCKINGBIRD	2-08
MOUNT DAVIS	2-21

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

TABLE 3-3
CRUCIAL HABITATS AND ANIMAL POPULATIONS

Bureau of Land Management, Arizona

WSAs	Acres of Crucial Desert Bighorn Sheep Habitat	Number of Adult Resident Bighorn	Acres of Suitable Peregrine Falcon Habitat
Van Deeman	1,510	2	—
Mockingbird	4,000	2	—
Black Mountains North	14,400	60	8,640
Burns Spring	16,960	50	19,200
Mount Tipton	—	—	8,000
Grapevine Wash	2,200	3	—
Grand Wash Cliffs	—	—	4,480
Mount Davis	2,460	10	—
Mount Nutt	22,960	100	25,920
Warm Springs	76,800	100	5,120
South Bradshaws East	—	—	—
Sierra Estrella	9,830	unk	—
Ragged Top	3,780	unk	—
Apache Box	—	—	—
Hoverrocker	—	—	—

unk - unknown

Source: Phoenix and Safford District Files

Naturalness. The Mockingbird WSA is crosscut by the Black Mountains which run north to south through the unit. The east slope of the Blacks within the WSA is gently sloping bajada. The majority, however, is along the west slope of the Black Mountains—rolling hills cut by numerous washes. Elevations range from 3,582 feet at the crest of the Blacks to 2,160 feet in the southwest corner of the unit. Vegetation is sparse Mohave scrub. The WSA is predominantly natural with human imprints largely unnoticeable. The area appears to be affected primarily by the forces of nature.

The nine vehicle ways (totaling 4 miles) are indistinct and unnoticeable for the most part and have very little impact on the apparent naturalness of the area. Six of the vehicle ways access prospects (trenches, pits or shafts) in the eastern half of the unit.

Another vehicle way accesses a series of mining scrapes, shafts and an old mill site in the northwest corner of the WSA. Three historic prospects (hand dug trenches) have no vehicular access. A livestock development in the southeastern corner consists of a flooded mine shaft which is being tapped by a windmill. A 0.9-mile pipeline leads from the well to a water storage tank and a trough, also within the WSA. This facility is deteriorated and blends into the surrounding terrain. Two wildlife water developments—a masonry dam/pothole catchment and a metal apron type catchment—were designed to blend into their surroundings. These developments therefore have but a minimal impact on the WSA's naturalness.

Solitude. The Mockingbird WSA does contain opportunities for solitude, but only in the topographically complex western portion of the unit on the west slope of the Black Mountains. The numerous washes provide a number of hidden, secluded spots, and the rugged topography in general provides screening from the sights and sounds of other people. Because of the relatively small size of the western portion of the WSA (roughly 3 miles x 3 miles), solitude opportunities are outstanding only when considered in conjunction with the contiguous 17,970 acre National Park Service area under wilderness consideration.

Solitude opportunities in the eastern portion of the WSA are considered poor because of the level, open aspect of the terrain and lack of vegetative screening. When considered

TABLE 3-4
PROTECTED PLANTS

Bureau of Land Management, Arizona

Common Name	Scientific Name	FWS Candidate Species	Listed By Arizona National Heritage Program
Cerbat beard tongue	*Penstemon bicolor* (T.S. Brane) Clokey & Keck spp. *roseus* Clokey & Keck	X	
Desert cassia	*Cassia armata* Wats.		X
Fishhook cactus	*Mammilaria thornberi*	X	
Freckled milk vetch	*Astragalus lentiginous* var. ambiguous	X	
Horsebrush	*Tetradymia stenolepis* Greene		X
Limestone milk vetch	*Astragalus titanophilis* Barneby	X	
Linear leaf rabbit brush	*Chrysothamnus teretifolius* (Dur. & Hilg)		X
Tumamoc globeberry	*Tumamoc macdougalii*		X

All scientific names follow Lehr 1978 and supplements published in the Journal of the Nevada Academy of Science.

Source: Phoenix District Files

in conjunction with the National Park Service's Unit 5 (Black Mountains) to the west, there is a sense of isolation in the Mockingbird WSA that contributes to outstanding opportunities for solitude within the unit.

Primitive and Unconfined Recreation. Opportunities for hiking, backpacking, photography and sightseeing for zoological and geological features are found within the Mockingbird WSA. The possibility of viewing bighorn sheep, golden eagles, desert tortoise and Gila monsters is also an attraction. The variety of colors and shapes in the volcanic hills and badlands to the west provides opportunities for sightseeing and photography. These opportunities are outstanding only when considered in conjunction with the contiguous National Park Service Unit 5 to the west.

In summary, the Mockingbird WSA does not possess outstanding opportunities for solitude or a primitive and unconfined recreation by itself, but does when considered along with contiguous National Park Service lands under wilderness consideration.

Special Features. Three wildlife species are listed as Threatened and Unique Wildlife of Arizona. The desert tortoise and bighorn sheep are described as species whose status in Arizona may be in jeopardy in the foreseeable future and the Gila monster is a Federal candidate Category 2 species.

MINERALS AND ENERGY RESOURCES

As of August 26, 1986, there were approximately 167 active placer and lode mining claims effectively covering the entire Wilderness Study Area (WSA). Historical mining and exploration and active projects exist within all of the 5,700 acres of this WSA. There are currently no Mining Plans on file with the Bureau for operations within the WSA, but two drilling projects are presently under way adjoining the WSA to the south and east and one trenching and tunneling project is active near the north boundary.

The WSA has produced gold and silver from flat lying quartz veins associated with a mineralized zone near the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Mocking Bird WSA, along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. The entire WSA has high potential for gold and silver mineral development. See Map 3-1 for mineral potential, and Table 3-1 for high and moderate mineral potential.

The Mocking Bird WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

RECREATION USES

This small WSA contains few natural amenities that would attract users seeking primitive and unconfined (nonmotorized) types of recreational pursuits. This WSA is quite remote from population centers. Several nearby larger, topographically complex and accessible areas are more likely to attract the available pool of both nonmotorized and motorized users. Four miles of rugged and deteriorated vehicle ways bisect the eastern portion of this unit but receive only sporadic use. Present estimated nonmotorized use are 20 VDY, and for motorized use 60 VDY.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type throughout the unit. This area supports approximately 230 vertebrate species of which 19 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM 1977).

This area is part of the range of the Black Mountains desert bighorn sheep population and is contiguous to the Lake Mead National Recreation area which supports high densities of sheep. This WSA contains 4,000 acres of crucial bighorn sheep habitat (Tables 3-3 and Map 3-1). There are up to two sheep within this WSA (Table 3-3).

Suitable habitat for the desert tortoise and Gila monster exists throughout the unit. Suitable habitat for the Gilbert's skink is found throughout the unit in dry and wet canyons in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the WSA coming in from nearby Sacramento Valley. Crucial habitats or population numbers for these five species are unknown. Population numbers and ranges of the 13 other special status species are not known.

CULTURAL RESOURCES

Although no sites are known to exist in this WSA, this is probably a result of the low level of inventory that has been completed.

Areas adjacent to the WSA suggest that at least four sites are present that are potentially eligible for the *National Register of Historic Places*. These sites are probably two prehistoric rock shelters and two historical mines.

LAND USES

The WSA has 5,815 acres of public land, with no nonfederal holdings. The northern boundary to the WSA is formed by a power transmission line operated by Arizona Public Service Company within a 200-foot right-of-way (R/W) (AR-035604). The western boundary of the unit is formed by the Lake Mead National Recreation Area.

LIVESTOCK AND RANGELAND USES

Portions of Units A and B of the Big Ranch Allotment lie within the WSA (less than 1% of each). There are approximately 36 AUMs of use in this portion in Unit A (the total use for controlled lands in Unit A equals 7,008 AUMs). An Allotment Management Plan has been developed for Unit A. In contrast, that portion of Unit B within the WSA is designated ephemeral.

VEGETATION

The vegetation is characteristic of the creosote bush-Yucca association (Brown, et al. 1979) of the Mohave desertscrub formation. No formal botanical inventories have been conducted in this area, however, suitable habitat for desert cassia and horsebrush (Table 3-4) may be found within the WSA.

BLACK MOUNTAINS NORTH WSA

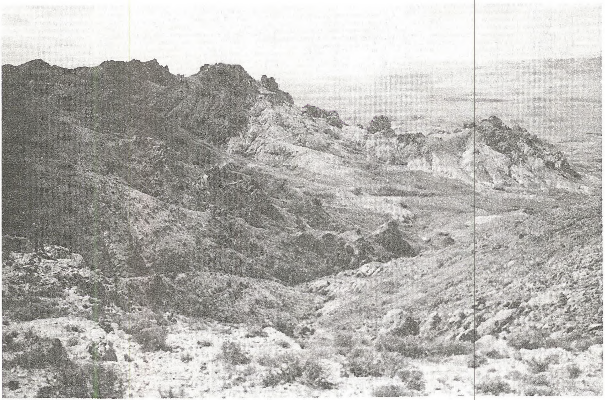
(AZ-020-09) 19,900 acres

WILDERNESS VALUES

Location and Boundaries. The WSA is 25 miles northwest of Kingman and two to five miles east of Lake Mohave. It is bounded on the north by the Cottonwood Road. on the east by roads along Lost Cabin Wash and along Portland Wash and on the western and southern boundaries by the Lake Mead National Recreation Area. This 15,295-acre National Recreation Area is being considered by the National Park Service as potential wilderness (Preliminary Wilderness Proposal, USDI, National Park Service, Jan. 1979, and Draft Environmental Impact Statement, NPS/LMNRA, April 1985).

Naturalness. The Black Mountains North WSA is bisected by an 8-mile long portion of the Black Mountains. The northeastern corner of the WSA is a plateau which rises steadily but gently from the Detrital Valley to a crest of 4,000 feet. At this point the elevation drops dramatically 2,000 feet to the volcanic plain on the west. The rugged craggy peaks, ridges, volcanic plugs, and dikes throughout the unit exhibit a variety of color and textural quality which enriches and amplifies the physiographic diversity of this unit. Several extremely steep V-shaped canyons provide a striking sense of depth and space which enhances the wildness and remoteness of the area. The vegetation in the WSA is characteristic of Upper Sonoran grassland (juniper grassland). Common species in the unit are juniper, Mohave yucca, catclaw, white bursage and creosote along with several species of grasses. Wildlife within the area is typical of this region and includes cottontail rabbits, jackrabbits, coyotes, raptors and, of particular importance, bighorn sheep.

The human imprints within the WSA are very insignificant. Several vehicle ways, two small pit reservoirs, three



Visitor overlooks Black Mountain ridgeline and Colorado River Valley — Black Mountains North WSA.

undeveloped water well sites, a few small exploratory mining pits and scrapes and eight miles of fencing are all well screened by terrain features. Wildlife water developments are two spring developments and 3 masonry dam/pothole catchments. These facilities were designed to blend into their surroundings.

Solitude. This WSA offers outstanding opportunities for solitude. The many deep canyons in the central part of the unit provide locations where users can easily screen themselves from the sights and sounds of others within the unit. Further opportunities for solitude are found in the small valleys on the south side of the WSA, in the deeply cut washes on the volcanic plain to the west and in the low rolling hills of the plateau in its northeastern part. Given this extreme complexity of topography, users can attain a sense of aloneness and isolation anywhere within this WSA.

Primitive and Unconfined Recreation. Several primitive recreation opportunities are available within the Black Mountains North WSA. The extremely colorful rock formations offer outstanding opportunities for the photographer. The area can accommodate many parties of backpackers for extended periods of time as well as for day hikers. The canyons, valleys and washes invite exploration by such users and by rockhounds and amateur geologists. Within this WSA is a mosaic of volcanic, intrusive igneous and sedimentary rocks such as andesite, lattite, rhyolite, granite, quartz, sand, silt and conglomerate. Several cliff-faced peaks and knife-edge ridges offer rock scramblers and technical rock climbers the opportunity to test their skills.

Though limited by terrain features, horsebackriding is a possible use in the WSA, particularly in the southern and western portions on the low hills and over the volcanic plain. The study or observation of plant and animal species is possible. Of particular interest to any recreationist may be the presence of desert bighorn sheep which inhabit the mountains in much of the WSA. Additionally, the National Park Service's wilderness proposal for Unit B, which is contiguous to this WSA, would increase the already outstanding recreation opportunities existing in the Black Mountains North area.

Special Feature. Portions of this WSA have been identified as critical lambing grounds for the desert bighorn sheep, one of the Arizona state-listed Threatened and Unique Wildlife species. The desert bighorn is in Group 3 of this list which refers to animals whose existence in Arizona may be in jeopardy in the foreseeable future.

MINERALS AND ENERGY RESOURCES

As of August 26, 1986, there were 153 active placer and lode mining claims, as well as historical mining and exploration and active exploration in much of this WSA. There is currently one Mining Plan on file with the Bureau for a gold/silver mining and cyanide heap leach operation within the WSA, but numerous sampling and mapping projects are presently under way which do not require plans. The leaching operation and access road have been excluded from the WSA at the boundary between the Black Mountains North and the Burns Spring WSAs. The limit of the area of exclusion is the zone of disturbance surrounding the activities. The minerals estate on 9,040 acres in twenty parcels and 670 acres in two parcels within the WSA are privately owned.

The WSA has produced gold and silver from flat lying quartz veins associated with a mineralized zone near the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Black Mountains North WSA along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. A north/south band within the WSA has high potential for gold and silver mineral development. Mordenite and clinoptilolite zeolite deposits are found at several localities in the Black Mountains. The zeolites found in this area have resulted from the alteration of the overlying clastic vitric Tertiary age volcanic tuffs. One zeolite location is known at the north end of the WSA along Cottonwood Road. See Map 3-3 and Table 3-1 for high and moderate mineral potential.

The Black Mountains North WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

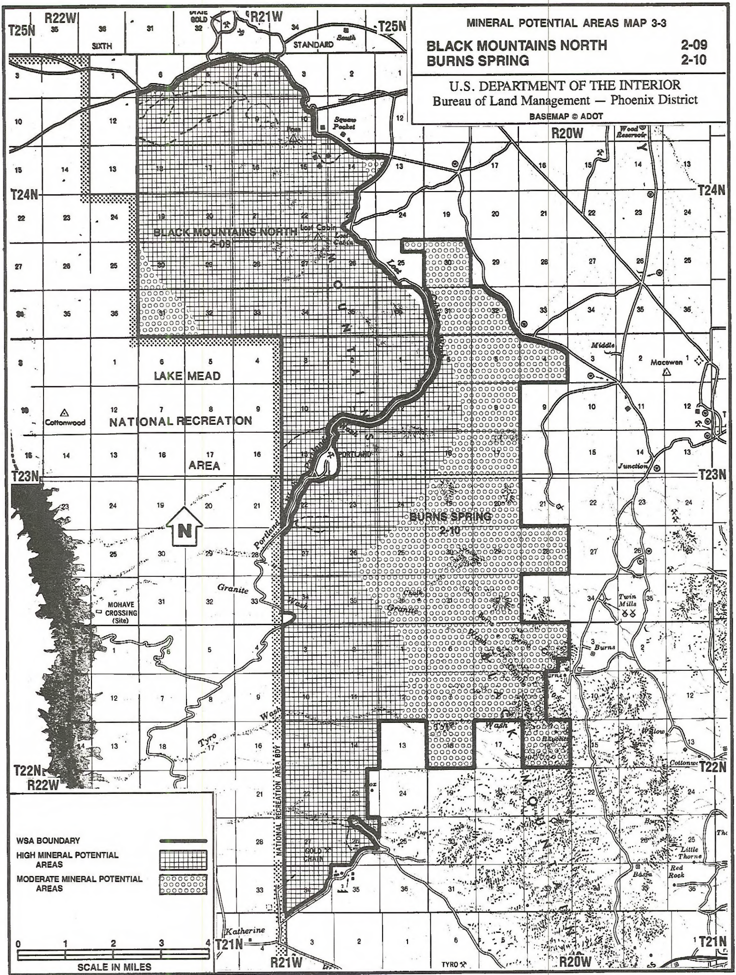
RECREATION USES

This WSA offers many fine opportunities for primitive and unconfined types of recreation such as day hiking and overnight backpacking. The exceedingly colorful and topographically imposing terrain also attracts a number of photographers. This WSA is easily accessible via regularly maintained gravel roads along its eastern and northern boundaries. Nonmotorized use is increasing both as a result of this ease of access, and as a consequence of becoming better known to area residents during the last several years.

This WSA contains approximately 5.5 miles of vehicle ways. A two-mile segment of Lost Cabin Wash in the extreme southern portion is frequently used by drivers wishing to access Lake Mohave, while avoiding the Portland Mine complex. Present nonmotorized use in this WSA is 150 VDY. Motorized use is approximately 200 visitor days/year.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type throughout the unit. This area supports approximately 230 vertebrate species of which 20 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM 1977).



MINERAL POTENTIAL AREAS MAP 3-3

BLACK MOUNTAINS NORTH 2-09
BURNS SPRING 2-10

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

The WSA contains 14,400 acres of crucial bighorn sheep habitat (Table 3-3 and Map 3-4). It contains all but 300 acres of the 5,190-acre Lost Cabin lambing grounds. There are up to 60 bighorn sheep in the WSA (Table 3-3).

The WSA has 8,640 acres of suitable habitat for the peregrine falcon. Habitat for the desert tortoise and Gila monster exists throughout the area. Suitable habitat for the Gilbert's skink is found throughout the area in dry and wet canyons in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the WSA, coming in from nearby Sacramento Valley. Crucial habitats or population numbers for these five species within this area are unknown at this time, nor are the population numbers and ranges of the other special-status species.

WILD HORSE AND BURRO PROGRAM

Burros live throughout the western half of the unit. Because of the lack of water, with the exception of a weak spring in the northern end, most burro use is in the winter and spring. A major vehicle thoroughfare down Lost Cabin Wash to Lake Mohave cuts across the southern tip and is used to place traps (bait and wing) in the heart of burro use areas close to the lake.

CULTURAL RESOURCES

Although no sites are known to exist in this WSA, this is probably a result of the low level of inventory that has been completed. Areas adjacent to the WSA suggest that at least four sites are present that are potentially eligible for the *National Register of Historic Places*. These sites are probably two prehistoric campsites, a prehistoric rockshelter and an historical mine.

LAND USES

The WSA has 19,900 acres of public land. Nonfederal holdings within the WSA are 670 acres of surface and mineral estate and 9,040 acres of mineral estate. The northern boundary of the WSA is the Cottonwood road, maintained by Mohave County within a 100-foot R/W (A-20862). The western boundary of the unit is formed by the Lake Mead National Recreation Area. The eastern boundary to the unit is the Lost Cabin Wash road which provides access to patented and unpatented mining claims. The road is maintained by the claimants under the authority of the mining law regulations.

LIVESTOCK AND RANGELAND USES

Portions of three grazing allotments, Portland Spring (4%), Fort MacEwen Unit A (10%), and Fort MacEwen Unit B (32%) are in the WSA. Portland Spring and Unit B of Fort MacEwen are designated ephemeral.

The portion of Unit A of Fort MacEwen within the WSA has approximately 72 AUMs of use associated. Total use on controlled lands within the allotment is 2,640 AUMs. Unit A is under an Allotment Management Plan.

VEGETATION

The vegetation of this unit contains elements of the Mohave desertscrub and great basin conifer woodland formations (Brown et al. 1979). The lower elevations (1400-3500 feet) support several desertscrub associations. The higher elevations a juniper-mixed grass association. No formal botanical inventories have been conducted in this area, although suitable habitat for desert cassia and horsebrush (Table 3-4) are on the lower elevations of the west slope.

BURNS SPRING WSA

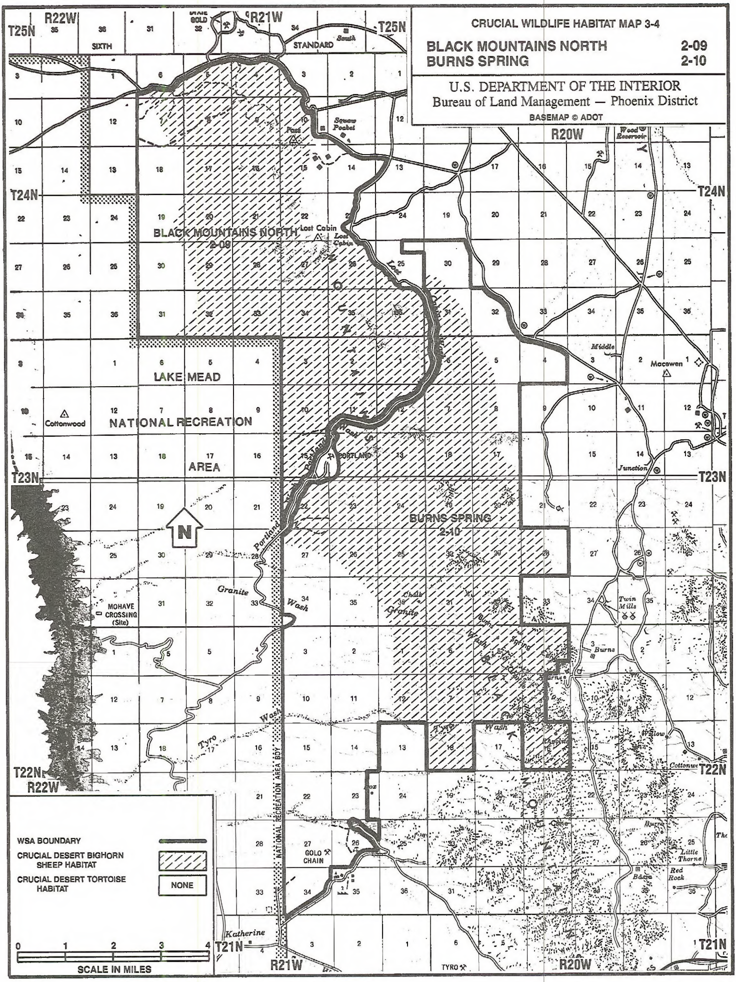
(AZ-020-10) 30,600 acres

WILDERNESS VALUES

Location and Boundaries. The WSA is approximately 6 miles north of U.S. Highway 68 and is adjacent to the eastern edge of the southern portion of the Lake Mead National Recreation Area. The WSA is bounded by the Portland Mine access road and Lost Cabin Wash on the northwest, a portion of a ranch road on the northeast, state and private land on the east, a road on the south and the Lake Mead National Recreation Area on the west.

Naturalness. The Burns Springs WSA is a 5 by 10 mile portion of the northern end of the Black Mountains and a large portion of an outwash plain on the west side of the unit. Elevations range from 1,600 feet in the plains to 4,165 feet at the highest point in the mountains, a rise of more than 2,500 feet. The mountains trend northwest to southeast and their arrangement provides a high degree of topographic complexity. Dramatic peaks, rock spires, buttes with steep cliff faces, mesas and sloping saddles make up the ridgelines. Numerous narrow canyons in the higher portions widen into expansive sandy washes and valleys trending west towards the outwash plain. Many smaller side canyons branch off the larger ones, adding to the topographic complexity. Smaller drainages on the eastern edge of the area feed into a large north/south trending wash and valley.

Water flows from springs in some of the higher canyons but seeps underground within a short distance into the canyons. Small waterfalls and pools are present when water is running freely after a rainstorm. Vegetation is Upper Sonoran grassland (juniper grassland) with the exception of riparian vegetation in a few of the higher canyons where springs are located. Dominant plants



CRUCIAL WILDLIFE HABITAT MAP 3-4

BLACK MOUNTAINS NORTH 2-09

BURNS SPRING 2-10

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

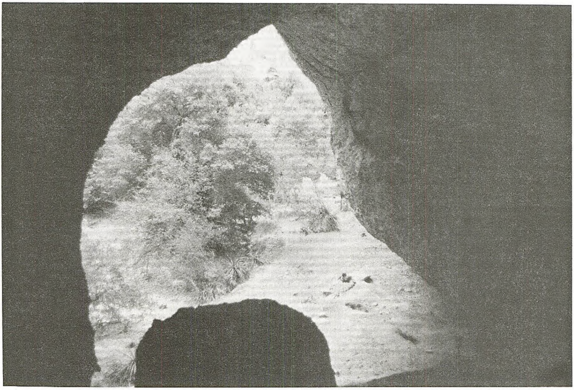
include Mohave yucca, juniper, catclaw, creosote, cholla and annual grasses on mountains slopes and plains and willow, nettle and watercress in the riparian areas. Among the wildlife this area provides habitat for are: coyote, Gambel's quail, cottontail, jackrabbits, raptors, desert bighorn sheep as well as many small mammals and reptiles.

The few minor human imprints are vehicle ways, inactive mining and a cement water trough that appears to be unused. Four miles of vehicles ways extend for short distances into the WSA. The WSA has some old mining, (a few pits, shafts and exploration scrapes), 7 miles of fence and two livestock spring developments. Both springs are fenced at the source, with water piped to 500-gallon troughs in each case. Short vehicle ways lead to each of these developments. Wildlife water developments are three spring developments and 1 masonry dam/pothole catchment. These facilities were designed to blend into their surroundings and, therefore, have but a minimal impact on the WSA's naturalness.

Solitude. Within the boundaries of Burns Spring WSA are a number of opportunities for the wilderness visitor to achieve a sense of solitude. The topography provides innumerable areas that screen the visitor from others and the diversity and complex design of the landforms aid in this screening. The western portion of the unit is an outwash plain; here many east-west washes cut deep into the rolling hills of desert grassland. The remaining area is primarily composed of the steep, rugged, and highly dissected Black Mountains. These topographic features and the Upper Sonoran desert grassland with its wide valleys and deep washes provide the user with many outstanding opportunities for solitude.

The character of the surrounding landscape and the isolated location of the Burns Springs WSA add to this feeling of aloneness. Directly north, across the Portland Mine access road, is the 20,398 acre Black Mountains North Wilderness Study Area (Unit 2-09), and the 15,295 acre Lake Mead National Recreation Area Wilderness Proposal (Unit B, Cottonwood Valley). On the western boundary is an undeveloped portion of the Lake Mead National Recreation Area. The vastness of this additional land promotes the visitor's feeling of solitude.

Primitive and Unconfined Recreation. The Burns Springs WSA has a diverse number of opportunities for primitive and unconfined recreation, some of which are outstanding. Most likely recreation uses are hiking, backpacking, rock climbing, photography and rock hounding. Opportunities for day hikes and photography are outstanding. The red volcanic rocks blackened with desert varnish, and the yellow outcrops of limestone that form the jagged cliffs and steep canyons present colorful backdrops for the photographer or hiker. The area itself could support several backpacking parties on overnight stays. If used in connection with the Lake Mead Recreation Area Wilderness Proposal and WSA 2-09 (Black Mountains North), extended backpacking trips would be available.



Caves in the Black Mountains have revealed a long period of occupation by prehistoric peoples.

The Black Mountains rise from 1,500 feet on the desert floor to more than 4,000 feet, producing spectacular rock formations with many rock climbing places. Pitches of varying degrees of difficulty provide opportunities and challenges for the everyday mountain climber or to the technical rock climber. In summary, this area's diverse opportunities are outstanding for primitive and unconfined recreation.

Special Features. The desert bighorn sheep within the state of Arizona are State listed. Primarily because of reduction in their habitat. Areas like Burns Springs provide needed critical lambing grounds for this species.

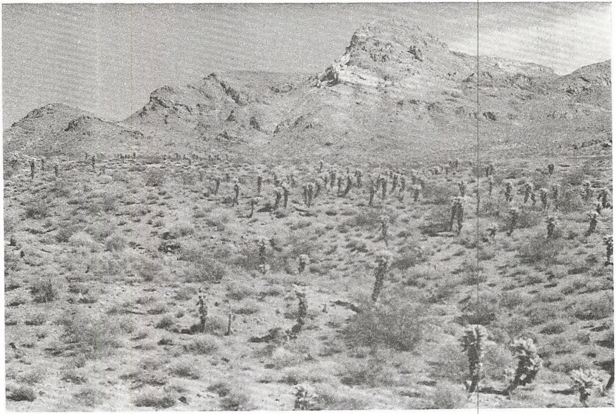
As described under *Naturalness*, this area contains portions of a diverse and colorful mountain range with dramatic peaks, steep canyons, sandy washes, and pristine valleys — a highly scenic area.

MINERALS AND ENERGY RESOURCES

As of August 26, 1986, there were 265 active placer and lode mining claims in the WSA. With historical mining and exploration and active exploration much of the 30,600 acres. There is currently one Mining Plan on file with the Bureau for a gold/silver mining and cyanide heap leach operation within the WSA, but numerous sampling and mapping projects are presently under way which do not require plans. The leaching operation and access road have been excluded from the WSA at the boundary between the Black Mountains North and the Burns Spring WSAs. The limit of the area of exclusion is the zone of disturbance surrounding the activities. The minerals estate on 8,320 acres in thirteen parcels within the WSA are privately owned.

The WSA has produced gold and silver from flat lying quartz veins associated with a mineralized zone near the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Burns Spring WSA along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. A north/south band within the WSA has high potential for gold and silver mineral development. Mordenite and clinoptilolite zeolite deposits are found at several localities in the Black Mountains and geological inference suggests that zeolites should be present in the same altered units in the Burns Spring WSA. The zeolites have resulted from the alteration of the overlying clastic vitric Tertiary age volcanic tuffs. See Map 3-3 for mineral potential, and Table 3-1 for high and moderate mineral potential.

The Burns Spring WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.



Black Mountains and desert alluvium — Burn Springs WSA.

RECREATION USES

This large and topographically complex WSA provides very good opportunities for nonmotorized recreational activities such as day hiking, birdwatching, wildlife observation, photography and overnight backpacking trips. The four miles of vehicle ways are short, deteriorated spur trails which receive only a small amount of sporadic use. Present nonmotorized use in this WSA is 200 VDY, motorized use 100 VDY.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type throughout the unit. This area supports approximately 230 vertebrate species of which 20 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM, 1977).

The area's 16,960 acres of crucial bighorn sheep habitat is extremely important to the Black Mountains desert bighorn sheep population (Table 3-3 and Map 3-4). It encompasses one-half of the Burns Spring lambing grounds. There are up to 50 bighorn sheep within the WSA (Table 3-3).

There are 19,200 acres of suitable peregrine falcon habitat, suitable habitat for the desert tortoise and Gila monster exists throughout the area. Suitable habitat for the Gilbert's skink is found throughout the area in dry and wet canyons in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the WSA coming in from nearby Sacramento Valley. Neither crucial habitats nor population numbers for these five species nor population numbers and ranges of the 13 other special-status species are known.

WILD HORSE AND BURRO PROGRAM

Burros live yearlong from Township 23 North south throughout the WSA and are dependent on several major springs. Capture of burros occurs on a regular basis near Chalk and Calles Spring (improved with maintenance required), Granite Wash and Box Springs (unimproved springs) and Dug Well. These capture efforts include roping (helicopter and motor vehicles), wingtrapping (helicopter and motor vehicles), watertrapping (motor vehicles and temporary corrals), and haytrapping (motor vehicles and temporary corrals). Both Calles and Chalk Spring have burro proof fences around the springs with water piped to a trough outside the exclosure. To ensure that these developments are functioning in the manner for which they were designed, the troughs have to be regularly checked to ensure access to water and that no burros have entered the exclosures (could mean certain death for the trapped burros).

Burro capture with wranglers.

To effectively monitor a population of 100-150 burros, access along existing roadways and washes is also necessary to annually read vegetation monitoring plots. These study plots are within a half mile of Calles Spring, a half mile of Chalk Spring, and a half mile of Box Spring. About every five years the burro population inventory uses low level helicopter flights.

CULTURAL RESOURCES

Although no sites are known to exist in this WSA, this is almost certainly a result of the low level of inventory that has been completed. Areas adjacent to the WSA suggest that at least five sites are present that are potentially eligible for the *National Register of Historic Places*. These sites are probably two prehistoric rock shelters, two historical mines and a prehistoric campsite.

LAND USES

The WSA has 30,600 acres of public land. Nonfederal holdings are 8,320 acres of private mineral estate. The western boundary of the unit is formed by the Lake Mead National Recreation Area.

LIVESTOCK AND RANGELAND USES

Portions of four grazing allotments are in the WSA—Thumb Butte (1%), Portland Spring (17%)(both emphemeral), Gediondia (9%)(perennial), and Unit A of Fort MacEwen (44%). A total of 24 AUMs of use for Gediondia are within the WSA.

Unit A of the Fort MacEwen allotment (perennial) is under an Allotment Management Plan. There are approximately 396 AUMs of use associated within the WSA.

VEGETATION

The vegetation of the area has elements of the Mohave desertscrub and great basin conifer woodland formations (Brown et al. 1979). The lower elevations (1400-3500 feet) support several desertscrub associations while the higher elevations support a juniper-mixed grass association. No formal botanical inventories have been conducted in this area, although suitable habitat for desert cassia and horsebrush (Table 3-4) is found in the WSA on the lower elevations of the west slope.

MOUNT TIPTON WSA
(AZ-020-12/42) 34,060 acres

WILDERNESS VALUES

Locations and Boundaries. The Mount Tipton WSA encompasses the entire northern half of the Cerbat range, extending from three miles north of the historic mining community of Chloride in the south, northward into the area known as the Cerbat Pinnacles. The boundaries of the WSA are formed by a mixture of private land and roads. On the northwest, the north and the east side, the boundary forms an irregular pattern because of the checkerboard ownership of private and public lands. The southwest border is either private land or the Putman Wash Road. The Big Wash Road forms the southern boundary from a mile east of Highway 93 to Packsaddle Mountain.

Naturalness. Mount Tipton WSA has an eleven-mile-long portion of the rugged, granitic Cerbat Mountains. The entire Cerbat Range north of the BLM-maintained Chloride/Big Wash Road is in the WSA. Elevations in this unit range from 3,500 feet on the desert bajadas, to 7,148 feet on Mount Tipton are within the area. Most of the pristine Cerbat Pinnacles, north of and below Mt. Tipton are within the area. The "Pinnacles" consist of immense tusk-like rows of maroon-colored spires arrayed majestically above open, tawny-colored valleys. In the area from Mount Tipton southward, the drainages descend from the peaks, forming deep washes divided by steep and highly vegetated ridges. Large granite outcrops dot the ridgeline, offering stark color contrasts of grey and red rocks against the green vegetation of the mountain slopes.

Vegetation in this area is diverse, with pine-oak woodland on the north and northwest facing ridges including species such as single leaf pinyon pine, shrub live oak, pointleaf manzanita, bear grass and desert ceanothus. On the northeast slope of Mount Tipton, particularly in the drainages, are small stands and single isolated individuals of ponderosa pine. On the south and west facing slopes, the oak-ceanothus-chapparal community is dominant with both shrub live oak and desert ceanothus very common. On the lower foothills vegetation is somewhat sparce but includes Mohave yucca, juniper in the sheltered areas, and the grasses and shrubs associated with the desert grassland on the exposed slopes. This area provides excellent habitat for mule deer and bobcat. Raptors are quite numerous, as are Gambel's quail and cactus wren.

Within this WSA, human imprints are insignificant—11 vehicle ways (9.7 miles) and a 15 x 15 feet barbed wire fence study exclosure. An 0.8 mile segment of 2-inch plastic water pipeline is in the southwestern portion of the WSA and a 0.3 mile segment of buried plastic water pipeline in the western portion extends from a spring outside of the WSA to a storage tank, 2 troughs and a corral. One mile of buried pipeline in the northwestern part of the WSA extends from a spring outside of the WSA to a trough in the WSA. There are also eight old metal storage tanks of various types and sizes along the vehicle ways.

Solitude. Outstanding opportunities for solitude are present throughout this large and topographically complex unit. The drainages are deep, dissected by steep highly vegetated ridges providing both vegetative and topographic screening. Within these drainages are small valleys and bowls with outstanding opportunities for solitude.

Primitive and Unconfined Recreation. The peaks within the area reach heights over 7,000 feet and present outstanding opportunities for sightseeing and hiking. From the top of several of these peaks one may view mountain ranges and valleys in all directions. Opportunities for day hikes, extended overnight backpacking trips and photography abound.

The Cerbat Pinnacles are an accessible, scenic and especially intriguing geologic area. This strikingly photogenic area contrasts strongly with the equally wild, but more "conventionally" scenic portions of the WSA from Mount Tipton southward.

MINERALS AND ENERGY RESOURCES

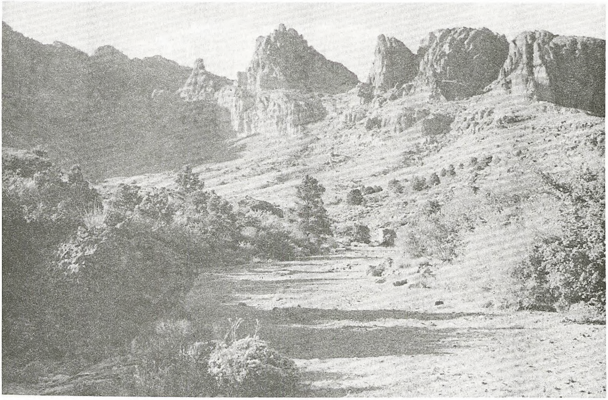
As of August 26, 1986, there were approximately 146 active placer and lode mining claims in the WSA along with historical mining and exploration and active exploration on much of the 34,060 acres. The Bureau has no Plans on file, but sampling and mapping projects are presently underway which do not require plans. The minerals estate on 10,340 acres in twelve parcels and 2,240 acres of surface within the WSA are private.

The WSA has produced gold, silver, lead, zinc, copper from quartz veins, disseminated bodies, local concentrations, and mineralized north/south fault zones which extend from the vicinity of McConnico on the south, northward through Mount Tipton WSA, to the White Mountains on the north. A zone of very high grade mineralization extends from just north of Kingman to the south boundary of the WSA. Recent studies indicate the existence of potentially economic mineralization within the boundaries of the WSA. See Map 3-5 for mineral potential, and Table 3-1 for high and moderate mineral potential.

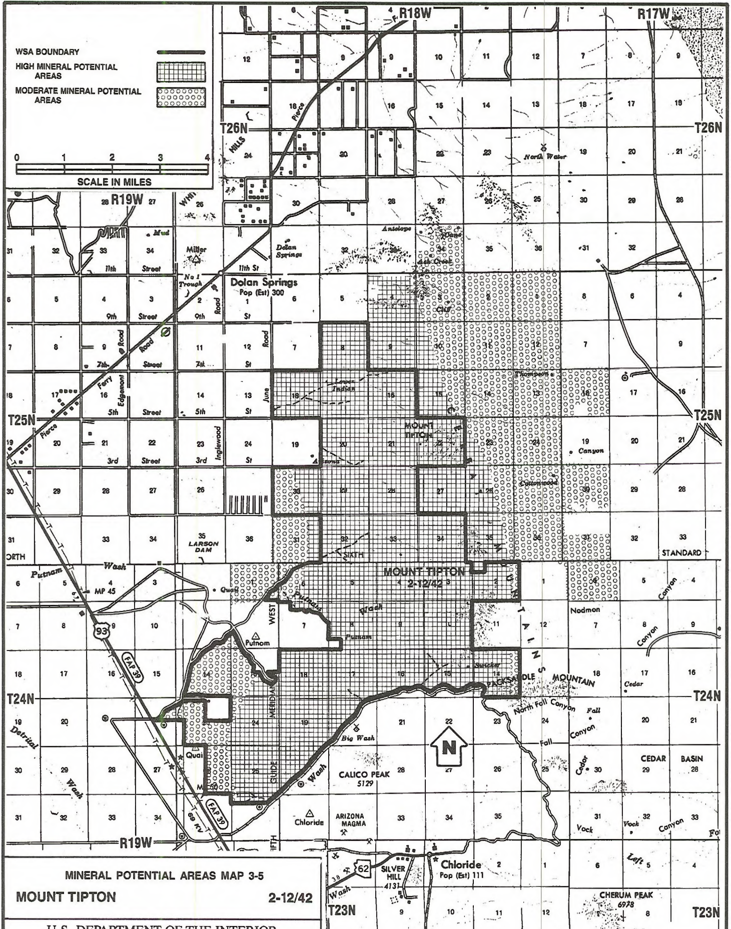
The Mount Tipton WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

RECREATION USES

This large and topographically complex WSA provides a range of high quality opportunities for those users seeking primitive and unconfined types of recreation. Nonmotorized users in this WSA participate in day hiking, photography and overnight backpacking. The WSA is easily accessible from several points, and is attracting an increasing number of nonmotorized users as it becomes better known.



Wash from northern portion of Mount Tipton area.



MINERAL POTENTIAL AREAS MAP 3-5

MOUNT TIPTON **2-12/42**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

The WSA's 9.7 miles of vehicle ways, entering from numerous points, are short, unmaintained spur trails which dead end at spring developments. They do, however, attract some vehicle-based recreational use, primarily during hunting season. Recreational 4-wheeling is not important here because there are no particular vehicle accessible "destination" attractions nor are there any "thru" ways with established patterns of regular vehicle use. Present nonmotorized use in this WSA is 400 VDY, motorized use 100 VDY.

WILDLIFE VALUES

Mohave desert shrub, chaparral, and pinyon-juniper are the dominant habitats in this WSA, with small patches of ponderosa pine communities on some of the peaks and eastern facing drainages. There are approximately 230 vertebrate species of which 17 are special-status species (Table 3-2). See the Cerbat Mountain Planning Unit URA for a detailed species list and life history information (BLM, 1972).

There are 8,000 acres of suitable peregrine falcon habitat in the area (Table 3-2). Suitable habitat for the Gilbert's skink is found throughout in dry and wet canyons in association with turbinella oak. Gila monster habitat is found throughout the unit in the Mohave desert shrub and chaparral communities. Ferruginous and Swainson's hawks are expected in the lower elevations. They will be most frequently encountered on the eastern fringes in association with nearby Hualapai Valley. Crucial habitats or population numbers for these five species and the 12 other special-status species are unknown.

WILD HORSE AND BURRO PROGRAM

Wild horses are found from Mount Tipton south to the southern boundary. Major access to this area's horse population is along cherry-stemmed roads and vehicle ways into Putnam and Arizona springs. Though no capture events have occurred in this area in recent years, these access routes would be necessary for future population control. Also, vegetative monitoring sites will probably be established in these areas to monitor vegetative use in the northern end of the Cerbat Wild Horse Management Area.

Capture efforts would include helicopter pursuit, motor vehicles for transporting and temporary corrals in any trapping effort. Motor vehicles would also be necessary to reach vegetative monitoring sites. Population monitoring would be necessary every three to five years, requiring low level helicopter flights.

CULTURAL RESOURCES

The known cultural resources are five sites that are probably eligible for the *National Register of Historic Places*. These sites are temporary prehistoric/historic camp sites and a rock shelter with late historic burials. The burial site is unusual in that it may represent the transition from cremation to inhumation among historic Hualapai Indians.

LAND USES

The WSA contains 34,060 acres of public land. Nonfederal holdings within the WSA are 2,240 acres of private surface and mineral estate and 10,340 acres of private mineral estate.

The southern boundary of the unit is formed by the Chloride — Big Wash Road. The Bureau of Land Management has reserved a 100-foot-wide R/W (A-7017) to itself for the road.

LIVESTOCK AND RANGELAND USES

Portions of four grazing allotments are in the WSA: Cedar Canyon (less than 1%), Mount Tipton (75%), Cane Springs (15%), and Quail Springs (38%). Approximate numbers of AUMs of use for these allotments within the WSA equals 48, 552, 684, and 1,104 AUMs, respectively. Total use for controlled lands equals 6,900, 744, 4,596, and 2,904 AUMs, respectively.

The Cane Springs and Quail Springs Allotments are under existing Allotment Management Plans.

VEGETATION

Vegetation in this WSA is diverse including associations of the Mohave desertscrub, interior chaparral and great basin conifer woodland formations (Brown, et al. 1979). Several mixed-shrub desertscrub associations and the shrub live oak — mixed sclerophyll association are widely distributed at the lower elevations. Mid-elevations are dominated by juniper grassland and pinyon — juniper associations. On the northeast slope of Mount Tipton, particularly in the drainages, are small stands and single isolated individuals of Ponderosa Pine. These trees are likely residuals and occur within pinyon — juniper and interior chaparral associations.

No formal botanical inventories have yet been conducted in this area, however, there is suitable habitat for cerbat beard tongue (Table 3-4). Specimens of this subspecies were collected in 1937 near Chloride, Arizona. Gravelly washes around 2600 feet elevation provide suitable habitat for this subspecies. Associated species include creosote bush, joshua tree, wire lettuce and cheeseweed.

Mohave yucca (*Yucca schidigera* Roezl.) is commercially harvested on a 30-year rotation schedule in the Kingman Resource Area since 1954. Yuccas are harvested in accordance with specific stipulations established by the BLM to mitigate environmental damage and to perpetuate the species. Up to 200 tons of yucca trunks are harvested yearly for extraction of organic substances for manufacture of liquid fertilizer and for other uses. Approximately one section (640 acres) of suitable harvest area is on the western periphery of the WSA.

GRAPEVINE WASH WSA

(AZ-020-14) 2,200 acres

WILDERNESS VALUES

Location and Boundaries. Grapevine Wash WSA is approximately 60 miles north of Kingman, Arizona, contiguous to a Lake Mead National Recreation Area wilderness proposal. The eastern boundary of Grapevine Wash WSA also borders on the undeveloped western boundary of Grand Canyon National Park. Private land borders the southern boundary. Access to the WSA is by horseback or by hiking only.

Naturalness. Grapevine Wash WSA contains a small portion of the Grand Wash Cliffs and its associated bajada. The southeast tip of the unit drops abruptly 1,200 feet to the west sloping bajada, then gradually west to the Grapevine Wash. The elevation of the cliffs is 5,200 feet and only 2,600 feet near the wash, a change of 2,600 feet across the two-mile-wide unit. The higher elevations are primarily sedimentary rock while the lower elevations are sand, silt, and gravel. The area is dissected by numerous drainages running east to west.

Vegetation is of Mohave Desert Scrub type—mainly sparse stands of banana yucca, blackbrush, Mormon tea, ocotillo and haplopappus. The entire unit appears to have been affected primarily by the forces of nature. The area has retained its primeval character and has no evidence of human activity. Though less than 5,000 acres in size, the Grapevine Wash WSA meets the size criteria because it is contiguous with lands managed by another agency (NPS/Lake Mead National Recreation Area) which have been formally determined to have wilderness values.

Solitude. The opportunities for solitude are not considered to be outstanding within any portion of the 2,200 acre WSA. However, this unit is contiguous to large tracts of land that do offer high possibilities for outstanding opportunities for solitude. The WSA alone lacks the large size and natural screening which would provide the user with outstanding opportunities for solitude, however, the opportunities are enhanced greatly when this area is considered as part of the greater expanse of contiguous NPS wildlands.

Primitive and Unconfined Recreation. Opportunities for primitive and unconfined recreation are limited because of the small size of the WSA and its lack of topographic and vegetative diversity which would channel users into the existing washes and create congested areas. This would affect such activities as hiking, backpacking, rock climbing and general sightseeing. In addition, the lack of topographic and vegetative diversity curtails any outstanding opportunities to view botanical, zoological, or geological features. Grapevine Wash WSA is, however, adjacent to a proposed NPS wilderness area of great size and topographic and vegetative diversity. This area then, as a whole, does offer many excellent primitive and unconfined types of recreational opportunities.

Special Features. This WSA is adjacent to an undeveloped portion of Grand Canyon National Park and to a National Park Service Proposed Wilderness (Lake Mead National Recreation Area Unit No. 22).

The known cultural resources are two large roasting pit sites which are probably eligible for the *National Register of Historic Places*. The sites have potential for future research and developments as tourist attractions in the Meadview area. These particular pits appear to be very old and may represent some of the earliest examples of large roasting pits used by the Paiute Indians in historic times.

MINERALS AND ENERGY RESOURCES

As of August, 26 1986, there were no mining claims but historical mining and exploration are known within the 2,200 acres of this WSA. The Bureau currently has no plans on file, but sampling and mapping projects have taken place which do not require plans.

The potential for discovery of economic values of mica, copper, and precious metals within the WSA is high. See Map 3-6 for mineral potential and Table 3-1 for high and moderate mineral potential.

The Grapevine Wash WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

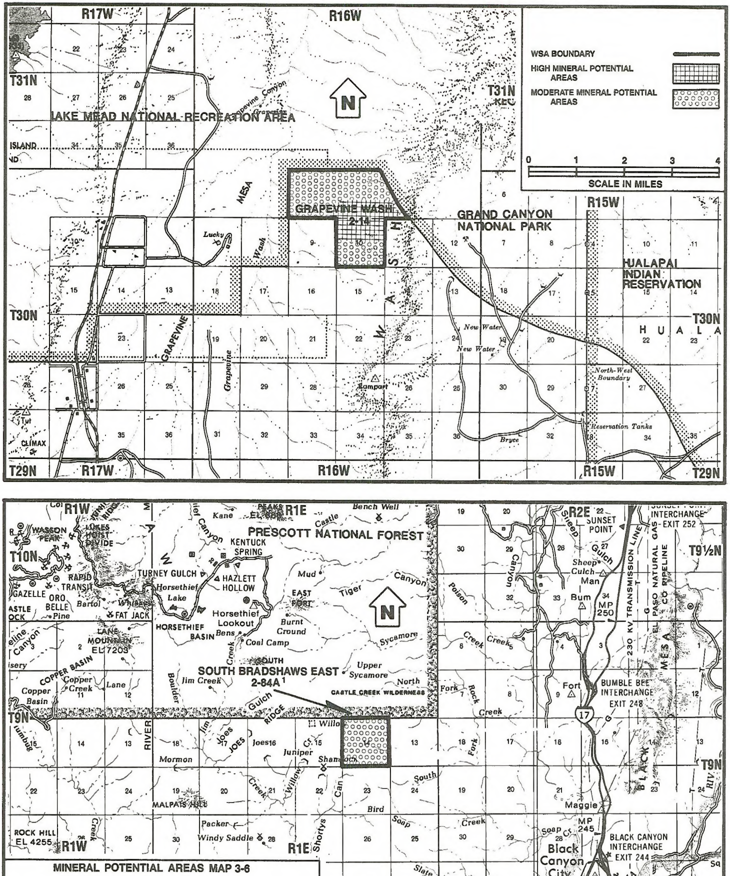
RECREATION USES

This WSA, although scenic and pristine, is very small and contains only a limited nimber of recreation opportunities. Nonmotorized use is incident to the use of surrounding National Park Service lands which border this WSA on three sides. The terrain immediately surrounding this WSA is topographically imposing, and offers excellent opportunities for those wishing to engage in wilderness type recreational activities.

There are no vehicle ways located in this WSA. Although so named, this unit does not include any segments of Grapevine Wash, a broad, sandy, vehicle-accessible drainage way which receives a considerable amount of regular vehicle use. Present nonmotorized use in this WSA is 10 VDY, with no motorized use.

WILDLIFE VALUES

Mohave desert shrub with associated riparian habitats is the dominant habitat type in this WSA. There are 230 vertebrate species of which ten are special-status species (Table 3-2). See the Cerbat Mountain Planning Unit URA for a detailed species list and life history information (BLM, 1972).



MINERAL POTENTIAL AREAS MAP 3-6

GRAPEVINE WASH	**2-14**
SOUTH BRADSHAWS EAST	**2-84A**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

The entire WSA of 2,200 acres is considered crucial desert bighorn sheep habitat (Map 3-7). This area is used seasonally by at least three bighorn (Table 3 and 3-3). Crucial habitats or population numbers for the other nine special-status species are unknown.

CULTURAL RESOURCES

The known cultural resources are two large roasting pit sites, probably eligible for the *National Register of Historic Places*. The sites have potential for future research and developments as tourist attractions in the Meadview area. These particular pits appear to be very old and may represent some of the earliest examples of large roasting pits which were used by the Paiute Indians in historic times.

LAND USES

The WSA contains 2,200 acres of public land with no nonfederal holdings. The northern boundary of the unit is formed by the Lake Mead National Recreation Area.

VEGETATION

The vegetation of this area is characteristic of the Yucca-blackbrush association (Brown et al. 1979) of the Mohave desertscrub formation. No formal botanical inventories have been conducted in this area. However, limestone milk vetch (Table 3-4) has been found within one mile of the WSA and much of this area is suitable habitat.

GRAND WASH CLIFFS WSA

(AZ-020-15) 12,176 acres

WILDERNESS VALUES

Location and Boundaries. The Grand Wash Cliffs WSA is approximately 40 miles north of Kingman, Arizona. The WSA consists of a four-mile-long portion of the Grand Wash cliffs, approximately six square miles of rolling hills above the cliffs and five square miles of the desert plain of Hualapai Valley. The unit is roughly six miles by three miles in size. The boundary of the unit if formed by a 500 kV powerline to the south, the Devil's Canyon Road to the west and the Hualapai Indian Reservation in the northeast.

Naturalness. The Grand Wash Cliffs WSA is dominated by the immense south facing cliff which diagonally crosses the unit from the east to the northwest. The cliffs provide a dramatic transition from the hilly forest land on the top to the desert plain of Hualapai Valley, 3,000 feet below. The cliff is granite gneiss and partially metamorphosed sedimentary rock. It displays sheer drops, spires, fault crevices and vertical chutes. A bench interrupts the vertical drop along a portion of the cliff and in one place provides a flat, nearly inaccessible plateau 1,000 feet below the cliff edge and 2,000 feet above the desert.

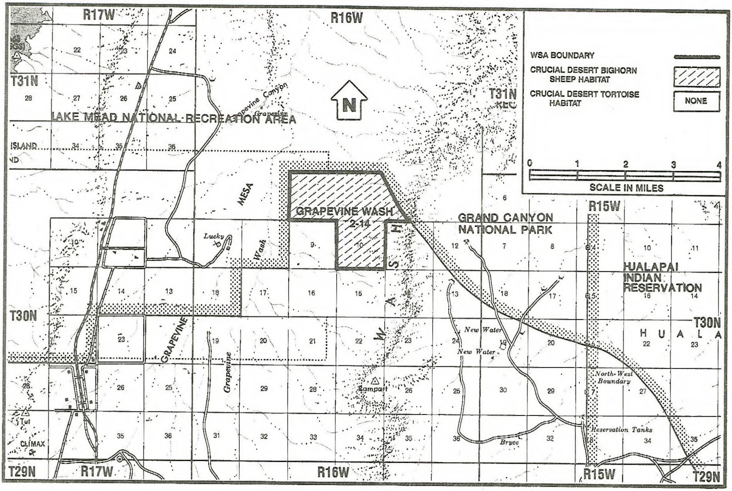
The western portion of the WSA consists of a series of hills forming a ridge which descends out onto the desert floor in a southeastward curl. This ridge forms a small valley between it and the base of the cliffs. Vegetation is that of a typical desert shrub community, dominated by creosote bush. On the top of the WSA, above the cliffs, are rolling hills and drainages thickly vegetated with pinyon pine, juniper and holly-grape oak. A natural fire burned portions of this forested area and revegetation thus far is limited to grasses and shrub species.

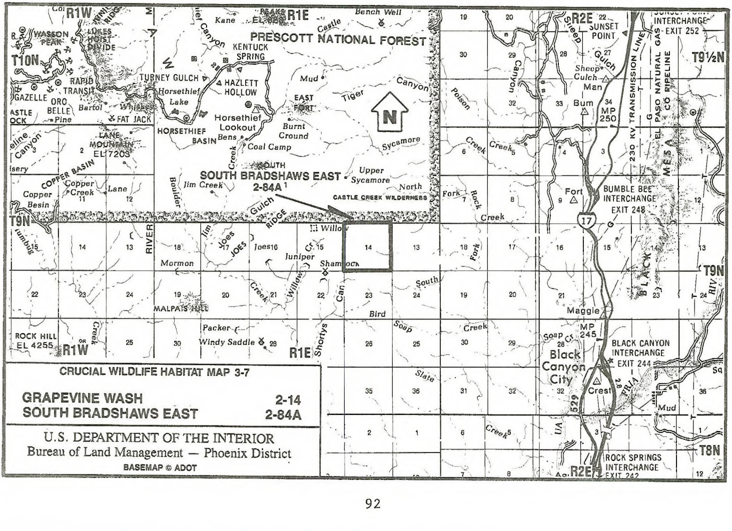
Within this WSA human imprints are insignificant, leaving the area in a primarily natural condition. These imprints are two vehicle ways (3.5 miles), 6.5 miles of barbed wire fence, a developed livestock water spring with a drinking trough and a large water storage tank, and a livestock reservoir equipped with a metal apron catchment 80,000-gallon water storage tank, trough and an exclosure fence. A wildlife water development (metal apron catchment) equipped with a water storage tank, drinking trough and exclosure fence, was designed to blend into its surroundings and has but a minimal impact on the WSA's naturalness.

Solitude. The Grand Wash Cliffs WSA offers outstanding opportunities for solitude. The variation of topography, combined with the presence of thick vegetation over one-third of the unit enables a user to avoid the sights and sounds of others. The cliff face itself provides many chutes, crevices and steep canyons dropping onto the desert floor with unlimited opportunities for solitude. The view from the top of the cliff engenders feelings of isolation and expansiveness. From these high points one has an unobstructed view out over the Hualapai Valley to the south and the Grand Canyon to the north. The rolling hill country on the top of the cliff is thickly vegetated with pinyon pine, juniper and various shrub species. Vegetative screening, combined with the configuration of rolling hills and drainages, insures the hiker or horseback rider in this vicinity outstanding opportunities for solitude.

Hells Canyon, which drops out of the high country in the NW portion of the unit, offers excellent opportunities for isolation. This drainage drops gently for its first two miles and then steeply down the cliff and onto the desert floor. Hells Creek flows during the wet portions of the year, creating an inviting attraction for exploration in an isolated and enclosed setting. The portion of the study unit on the desert floor offers less than outstanding opportunities for solitude. However, the area is well vegetated with creosote and some screening is present.

Primitive and Unconfined Recreation. The Grand Wash Cliffs WSA offers outstanding opportunities for primitive and unconfined recreation. The cliff itself provides a diversity of recreational opportunities. It stands as an attraction that is visible 45 miles across the Hualapai





CRUCIAL WILDLIFE HABITAT MAP 3-7

GRAPEVINE WASH 2-14
SOUTH BRADSHAWS EAST 2-84A

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

Valley. The cliffs, with their intriguing formations and visual beauty, inspire sightseeing and photography. The view from the top offers expansive views. The Hualapai Mountains, 45 miles away, are clear on the horizon. Twelve miles to the east, a continuation of the Grand Wash Cliffs rises to an impressive peak of 6,760 feet. To the north, portions of the Grand Canyon are visible.

The WSA offers excellent hiking opportunities. The cliff rim is easily accessible from the north and is well suited for day hikes. Hells Creek flows out of the high country in a steep rocky canyon that invites exploration. When the creek is flowing, myriad small waterfalls and pools are formed.

Special Features. The scenic beauty of the Grand Wash Cliffs is a significant supplemental value. The cliffs, rising 3,000 feet from the desert floor, are visible from Kingman, 40 miles away. Close up viewing reveals a complex cliff face that includes vertical chutes, spires, fault crevasses and breathtaking sheer drops. The rock in this cliff face is primarily a granitic gneiss mixed with some metamorphised sedimentaries. The formation takes on orange and pink hues with changing light.

MINERALS AND ENERGY RESOURCES

As of August 26, 1986, there were no mining claims but there are some historical mining and exploration and active exploration. The Bureau currently has no plans on file, but sampling and mapping projects have taken place which do not require plans. Highly mineralized quartz veins have been mined two miles south of the WSA. The strike of these veins is approximately North 50° East and dips 80° NE. There is no indication the system does not extend into the WSA and geologic inference suggests that it does enter near the southwest boundary and dips northeast under it. See Map 3-8 for mineral potential and Table 3-1 for high and moderate mineral potential.

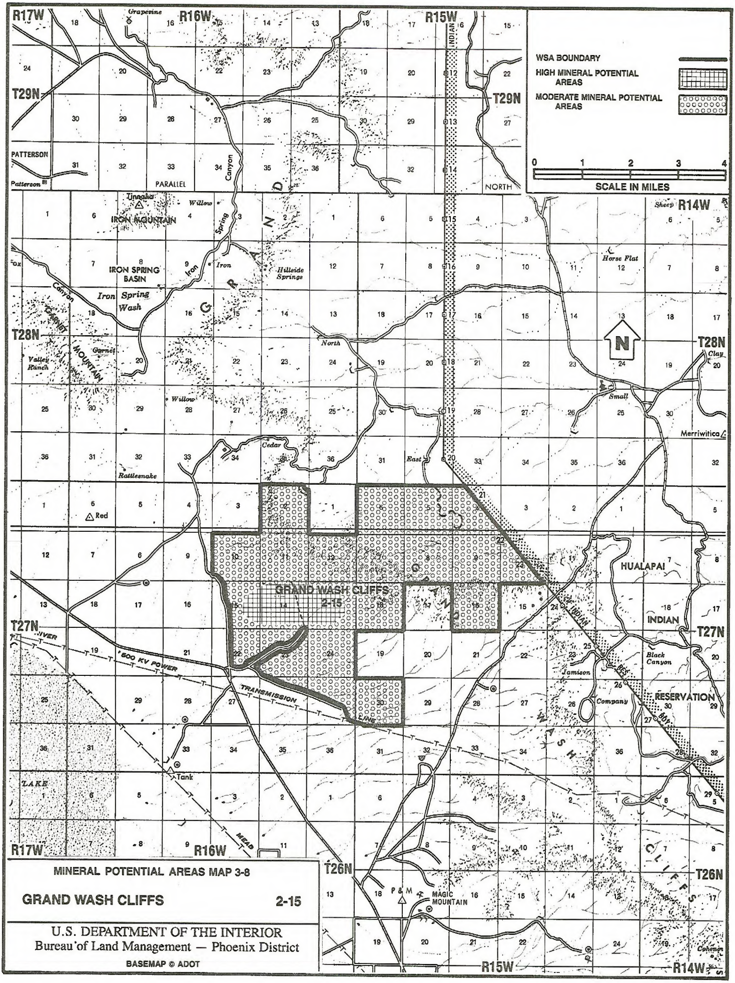
The Grand Wash Cliffs WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

RECREATION USES

This WSA is currently attracting a very small amount of nonmotorized users. Good opportunities for day hiking, photography, and limited overnight backpacking do exist. Poor vehicle accessibility into much of the WSA, however, limits both nonmotorized and motorized recreational use in this area.

The WSA contains two separate vehicle ways totalling 3.5 miles in length, both of which access small livestock/ wildlife water developments. These routes receive only a minimal amount of use, with most of the recreational portion of this use being for hunter access. Present nonmotorized use is 30 VDY, motorized use is 80 VDY.

Grand Wash Cliffs escarpment — Grand Wash Cliffs WSA.



MINERAL POTENTIAL AREAS MAP 3-8

GRAND WASH CLIFFS **2-15**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type in the western portion of the unit. The eastern upper elevations support a pinyon-juniper community. There are approximately 230 vertebrate species of which 17 are special-status species (Table 3-2). See the Cerbat Mountain Planning Unit URA for a detailed species lists and life history information (BLM, 1972).

There are approximately 4,480 acres of suitable peregrine falcon habitat in this WSA (Table 3-3). Crucial habitats or population numbers for this species and the 16 other special-status species are unknown.

CULTURAL RESOURCES

Although no sites are known to exist in this WSA, this is likely a result of the low level of inventory that has been completed. Areas adjacent to the WSA suggest that at least five sites are present that are potentially eligible for the *National Register of Historic Places*. These sites are probably two large roasting pits, two prehistoric campsites and a prehistoric rock shelter.

LAND USES

The WSA contains 12,176 acres of public land, with 4,480 acres of private mineral estate. A small portion of the southern boundary of the unit is formed by a power transmission line operated by Arizona Public Service Company within a 200-foot R/W (AR-035604). The eastern boundary of the unit is formed by the Hualapai Indian Reservation.

LIVESTOCK AND RANGELAND USES

Portions of two grazing allotments lie within the WSA—Clay Springs (12%) and Upper Music (31%). Approximately 60 AUMs of use are associated with the area on Clay Springs (total use for controlled lands on Clay Springs equals 520 AUMs).

An Allotment Management Plan has been developed for Upper Music. Approximately 800 AUMs of use are associated with the area within the WSA (total use for controlled lands on Upper Music equals 2,580 AUMs).

VEGETATION

The vegetation in this WSA includes associations of both the Mohave desertscrub and the great basin conifer woodland formations (Brown et al. 1979). The former is found in the low areas and canyons below the cliffs while the latter, dominated by the pinyon — juniper association, is on the mesa above the cliffs. Although no formal botanical inventory has been conducted in this unit, limestone milk vetch (Table 3-4) occurs in the vicinity and suitable habitat occurs over much of the WSA. This species is found in limestone outcrops and on limey soils.

MOUNT DAVIS WSA

(AZ-020-21) 2,560 acres

WILDERNESS VALUES

Location and Boundaries. Mount Davis WSA is in northwest Arizona 20 miles north of Davis Dam. The unit consists of four isolated sections adjacent to the Lake Mead National Recreation Area (LMNRA) wilderness proposal ("Preliminary Wilderness Proposal, Lake Mead", USDI, NPS, January 1979, and LMNRA "Draft EIS", NPS, April 1985). Each of the four parcels are 640 acre sections and are surrounded by private land on three sides. The combined area within this unit is 2,560 acres of BLM-administered public land with no state or private inholdings. Although the unit is under 5,000 acres, it meets the size criteria in that all four parcels are adjacent to another federal agency's endorsed wilderness proposal.

Naturalness. Mount Davis WSA consists of small portions of the outwash plain which drains the west slope of the Black Mountains. Major washes drain directly into the Colorado River which is 1.5 to 4 miles west of these areas. Small rugged volcanic hills are in 3 of the 4 sections, and the other section contains much of the western slope of 2,034 foot Mount Davis. These hills are primarily the remnants of thick volcanic flows which have been heavily eroded into small peaks, buttes, and ridges, with several small, but steep-walled canyons and gorges.

Vegetation within the WSA is a very sparse creosote-bursage community with white burrobush, ephedra, wolfberry, snakeweed and buckwheat. Cat claw acacia and some mesquite grow along the washes. The topography and vegetation of these four sections are a natural continuation of the Lake Mead National Recreation Area.

Three of these four sections have remained free of disturbance and appear to have been affected entirely by the forces of nature. The section encompassing the east side of Mount Davis contains a metal apron water catchment with a buried water storage tank, drinking troughs and a barbed wire exclosure fence for the bighorn sheep which inhabit this area.

Solitude. The topographic relief within these parcels is generally sufficient to provide opportunities for solitude. However, since each parcel is only 640 acres, opportunities are severely restricted by size and cannot be said to be outstanding. Therefore, these parcels, by themselves, would not provide an outstanding opportunity for solitude. However, when considered with the adjacent Lake Mead National Recreation Area wilderness proposal, opportunities in the combined area are outstanding, and provide a large, wild area with excellent topographic relief and complexity. All four parcels are a natural continuation of the existing proposal and are separated only by an administrative boundary. Each parcel would contribute to the wilderness experience if designated in conjunction with the Park Service proposal.

Primitive And Unconfined Recreation. Opportunities for primitive and unconfined recreation within the WSA are limited by the unit's small size. Each parcel is separated from the next by private land and connected to one another only by the Lake Mead National Recreation Area. Opportunities for hiking are outstanding only when the contiguous Recreation Area wilderness proposal is considered. Within the unit the form of recreation with the most potential is the opportunity for zoological sightseeing. Desert bighorn sheep live within the WSA and the area is considered as medium value habitat.

Special Features. At least three state listed "Threatened and Unique Wildlife of Arizona" species (or subspecies) live within the inventory unit. The desert tortoise and desert bighorn sheep are listed in Group III, described as species or subspecies whose status in Arizona may be in jeopardy in the foreseeable future; the desert tortoise and the gila monster are federal candidate species.

MINERALS AND ENERGY RESOURCES

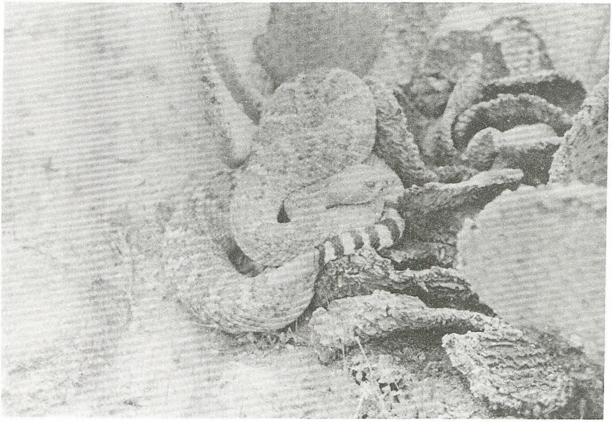
As of August 26, 1986, there were four placer and lode mining claims covering all of section 30, T. 26 N., R. 21 W., G&SRM. Historical mining and exploration and active exploration exists within the 2,560 acres of this WSA. There are no Mining Plans on file with the Bureau, but sampling and mapping projects are presently under way which do not require plans.

Gold and silver has been produced from flat lying quartz veins associated with a mineralized zone near the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary under the WSA. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Mount Davis WSA, along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. A north/south band within the WSA has high potential for gold and silver mineral development. See Map 3-1 for mineral potential and Table 3-1 for high and moderate mineral potential.

The Mount Davis WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

RECREATION USES

This WSA is notable for its remoteness and difficulty of access. A portion of this unit is on the east side of Mount Davis, a steep, dark colored hill isolated in the midst of a vast alluvial plain. This topographically intriguing area attracts some of the potential day hikers recreating on



"Coontail" Western Diamondback Rattlesnake.

nearby Lake Mohave. The narrow drainages in this area are not accessible to motor vehicles so there are no vehicle ways and no nonmotorized use. Present nonmotorized use in this WSA is 30 VDY.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type. This area supports approximately 230 vertebrate species of which 19 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM, 1977).

This area has 2,460 acres of crucial bighorn sheep habitat and is almost one-half of the Mt. Davis lambing grounds are important to the Black Mountains desert bighorn sheep population. It is contiguous to the Lake Mead National Recreation Area which supports high densities of sheep. There are up to ten bighorn sheep within the WSA. See Table 3-3 and Map 3-2.

Suitable habitat for the desert tortoise and Gila monster exists throughout the area. Suitable habitat for the Gilbert's skink is found in dry and wet canyons in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the WSA coming in from nearby Sacramento Valley. Crucial habitats or population numbers for these five species are unknown. Population numbers and ranges of the 13 other special-status species are not known.

CULTURAL RESOURCES

Although no sites are known to exist in this WSA, this is likely a result of the low level of inventory that has been completed. Areas adjacent to the WSA suggest that at least three sites are present that are potentially eligible for the *National Register of Historic Places*. These sites are probably two prehistoric campsites and a prehistoric rock shelter.

LAND USES

The WSA contains 2,560 acres of public land, with no nonfederal holdings. Portions of the units northern and western boundaries are formed by the Lake Mead National Recreation Area.

VEGETATION

The vegetation of this area is characteristic of the creosote bush-Yucca association (Brown et al. 1979) of the Mohave desertscrub formation. No formal botanical inventories have been conducted in this area, however, there is suitable habitat for desert cassia and horsebrush (Table 3-4).

MOUNT NUTT WSA

(AZ-020-24) 29,190 acres

WILDERNESS VALUES

Location and Boundaries. Mount Nutt WSA is 15 miles west of Kingman and nine miles east of Bullhead City. The WSA is bounded on the north by a combination of state and private land and portions of the Secret Pass Canyon vehicle way, and by a 500 kV powerline and access road. The east boundary is private land and by two short segments of road. The south boundary follows state and private land and a pipeline and access road. The west boundary follows two segments of vehicle ways and a road.

Naturalness. The Mount Nutt WSA encompasses an eight-mile-long stretch of the Black Mountains, a long, narrow, north-south trending volcanic range typical of the mountain ranges within the basin and range physiographic province. The unit rises nearly 2,500 feet from the western desert floor to the summits of Nutt Mountain (5,216 feet) and Mount Nutt (5,062 feet).

The mountains are composed of a variety of volcanics dominated by tertiary (and some cretaceous) rhyolite and andesite with tuff and agglomerates. Some Laramide granites are exposed in the west-central portion of the unit and Precambrian gneiss in the north-central portion of the unit. The mountains are formed primarily of a thick volcanic flow highly dissected so that the landscape features a variety of mesas and buttes. The area is well known locally for its dramatic brightly colored terrain with picturesque pinnacles, spires, deep canyons, precipitous cliff faces and numerous caves, with "slickrock" surfaces being common.

The vegetation is Mohave desertscrub in the lower elevations with a grassland formation at the higher elevations. The former appears primarily as either a creosote-bursage community, or as blackbrush communities with Mohave yucca as a dominant. The upper elevations support a juniper grassland formation (Upper Sonoran grassland) characterized by California juniper, nolina, blue yucca, snakeweed and a variety of grasses with some shrub live oak. Several springs are throughout the unit, many of which support cottonwood-willow communities. The WSA is in a natural condition, clearly dominated by the forces of nature.

The human-caused imprints are substantially unnoticeable and do not significantly impact the unit's naturalness: a total of 2.8 miles of fence lines and three springs that have been developed primarily for livestock use, 2.3 miles of water pipeline extending from these springs to the WSA boundaries and beyond and several wildlife water developments (five developed springs and four masonry rock dam/pothole catchments). These facilities were designed to blend into their surroundings and, therefore, have but a minimal impact on the WSA's naturalness.

A 2.5-mile segment of a coal slurry pipeline extends through the northernmost portion of the WSA. Because of extensive blasting and access development during its construction, the route of the pipeline is much in evidence along its entire length within the WSA. A 2.5 mile vehicle way follows the pipeline.

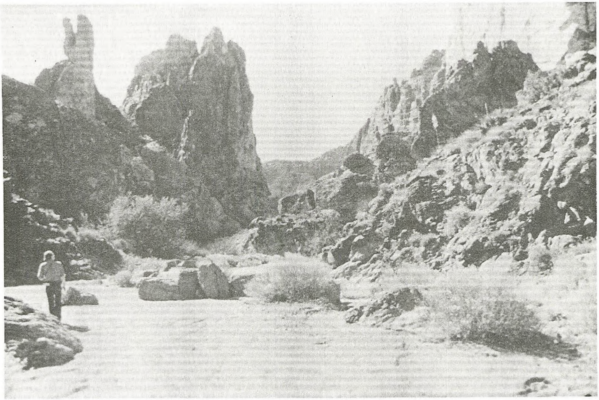
Most of the 12.5 miles of vehicle ways follow washes with no construction or maintenance apparent and are often barely discernible from the ground. There are several very old and scattered mining prospects and shafts as well as some reclaimed areas of recent mining activity along the northern boundary. The rugged topography and adequate vegetation sufficiently screens these imprints so as to render them substantially unnoticeable. This WSA remains natural and provides a sense of magnificently wild and undisturbed desert land.

Solitude. Outstanding opportunities for solitude are present throughout the Mount Nutt WSA. Nearly all of the unit is the rugged Black Mountains which present a complex system of mesas, buttes, canyons, valleys and gorges that provide innumerable opportunities for the visitor to escape the sights and sounds of other visitors. The WSA averages 7 miles in length and 5.5 miles in width and exhibits a substantial elevational change. The topography is such that the unit could absorb numerous visitors before the opportunity for solitude would be compromised.

There is no one area to which visitors would tend to congregate. Rather, a variety of intriguing features serve to naturally disperse visitors and reduce the chances of encounters with other visitors. In addition, the numerous canyons and small valleys within the WSA also provide opportunities for solitude. The rocky, hilly nature of the terrain combined with the often dense vegetation, provides more than adequate screening.

Primitive and Unconfined Recreation. The Mount Nutt WSA provides outstanding opportunities for several types of primitive recreation. Included are opportunities for hiking, backpacking, sightseeing for geological and zoological sights and photography. The variety available to the hiker further enhances the opportunities. The many cross-country routes one could take are greatly varied in length and difficulty, providing a spectrum of challenge. Scenic views and picturesque features reward the visitor throughout the WSA.

The WSA also provides excellent opportunities for geologic sightseeing because of the variety of landforms and the variety of volcanic rocks. Andesite, rhyolite, tuffs and agglomerates form scenic mesas, buttes, spires, windows and other impressive rock features. The WSA also provides outstanding opportunities for zoologic sightseeing—a variety of wildlife is relatively abundant. The WSA supports a healthy population of desert bighorn sheep. Nearly the entire WSA is classified as critical bighorn sheep habitat due to its importance as a lambing area. The variety of landforms, scenic vistas, vegetation, and the occurrence of bighorn sheep provide outstanding opportunities for photography. Numerous precipitous cliffs provide ample opportunity for the rock climber. However, the volcanic rock is fairly crumbly, reducing the opportunities for technical climbing.



Hiker strolls through canyon — Mount Nutt WSA.

Special Features. Mount Nutt WSA possesses notable scenic values which supplement the wilderness experience. The various colors and variety of textures together with the rugged character of the terrain provide for a scenically outstanding landscape.

The WSA supports a healthy herd of desert bighorn sheep, a state listed Group III whose status in Arizona may be in jeopardy in the foreseeable future.

Some important archaeological resources are six sites (rock shelters, pictographs and petroglyphs) that are probably eligible for the *National Register of Historic Places*. One of the rock shelters is the Bighorn Cave which has recently (1986) been tested by Northern Arizona University and the Museum of Northern Arizona. Bighorn Cave was occupied several times during the past four thousand years and the artifactsfound within the cave are in an excellent state of preservation. Bighorn Cave has great potential for future excavations to reveal the way people lived in northwestern Arizona in prehistoric times.The pictographs are painted in various shades of red, black and white, and are some of the best examples of painted prehistoric designs found anywhere in Arizona.

MINERALS AND ENERGY RESOURCES

As of August 26, 1986, there were 635 placer and lode mining claims as well as historical mining and exploration and active exploration. Three open Mining Plans on file with the Bureau for operation within the WSA, three closed files, and numerous sampling and mapping projects are presently under way which do not require a plan. The minerals estate on 9,325 acres on nineteen parcels and 589 acres of surface estate on six parcels within the WSA are privately owned.

The WSA has produced gold and silver from flat lying quartz veins associated with a mineralized zone near the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Mount Nutt WSA, along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. High grade mordenite and clinoptilolite zeolite deposits are found at several localities in the Black Mountains including, Mount Nutt WSA, geological inference suggests that zeolites should be present in the same altered units throughout the WSA. The zeolites at the north and south ends of the WSA resulted from the alteration of the overlying clastic vitric Tertiary age volcanic tuffs. The zone of recognized zeolites ranges from the north end of Black Mountain North WSA to central Warm Spring WSA on the south. Underlying the zeolite unit is a north/south band of high potential for gold and silver mineral development. A rare semi-precious gem, fire agate, is also found in certain units within the upper Tertiary volcanics in the central and northern areas of the WSA. See Map 3-9 for mineral potential and Table 3-1 for high and moderate mineral potential.

The Mount Nutt WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is low. There are no known leasable minerals in the WSA.

RECREATION USES

This large and topographically complex WSA provides a range of high quality opportunities for those users seeking primitive and unconfined types of recreation. Nonmotorized users in this WSA participate in day hiking, wildlife and wildflower photography, rock climbing, rockhounding and extended overnight backpacking. This WSA is becoming an especially popular destination for organized educational and outings-type groups because of its proximity to population centers, accessibility and its considerable variety of terrain features. The WSA is easily accessible from numerous points along its north, east and south boundaries, and is attracting an increasing number of nonmotorized users as its attractions become better known. This WSA is located midway between Kingman and Bullhead City and the community of Golden Valley is rapidly expanding into the Sacramento Valley on the northeast.

About 14.5 miles of vehicle ways enter the WSA from several points along its west, north and east sides. Three of these vehicle ways bisect small portions of the WSA: two extend through Secret Pass Canyon (portions of which are located on both sides of the WSA's north end and the other parallels the three-mile segment of buried coal slurry line in the extreme northwestern part. All of these ways receive regular vehicle use by recreational 4-wheelers and other motorized users. All of the other vehicle ways consist of short, generally deteriorated spur trails which dead end in steep box canyon drainages on the periphery of the WSA. These trails invariably access old mine prospects or spring sites but do receive a small but steady year-round usage. Many serve as vehicle parking sites for hunters, hikers, rockhounds, picnickers or for overnight car camping.

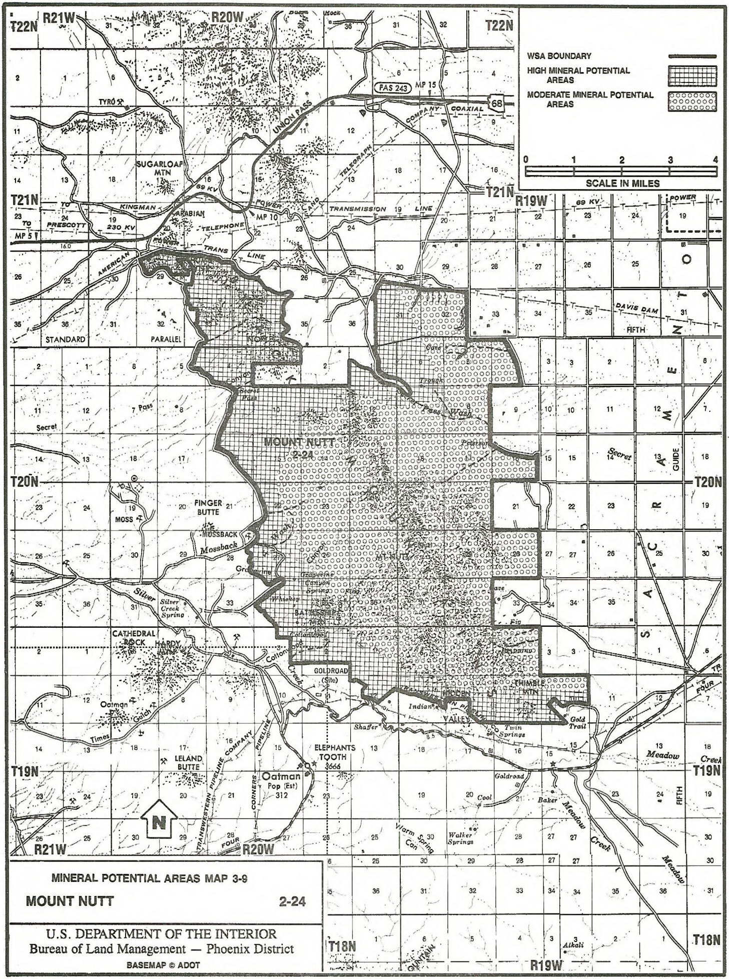
Present nonmotorized use in this WSA is 1,800 VDY, motorized use is 1,200 VDY.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type throughout the unit. This area supports approximately 230 vertebrate species of which 21 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM, 1977).

This area is also extremely important to the Black Mountains desert bighorn sheep population with its 22,960 acres of crucial bighorn sheep habitat (Table 3-3 and Map 3-10) and 8,000 acres of the 8,480 acres Mount Nutt lambing grounds. There are up to 100 bighorn sheep within the WSA (Table 3-3).

There are 25,920 acres of suitable peregrine falcon habitat in the area, Suitable habitat for the desert tortoise and Gila monster exists throughout the area. Suitable habitat for the Gilbert's skink in dry and wet canyons is found in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the

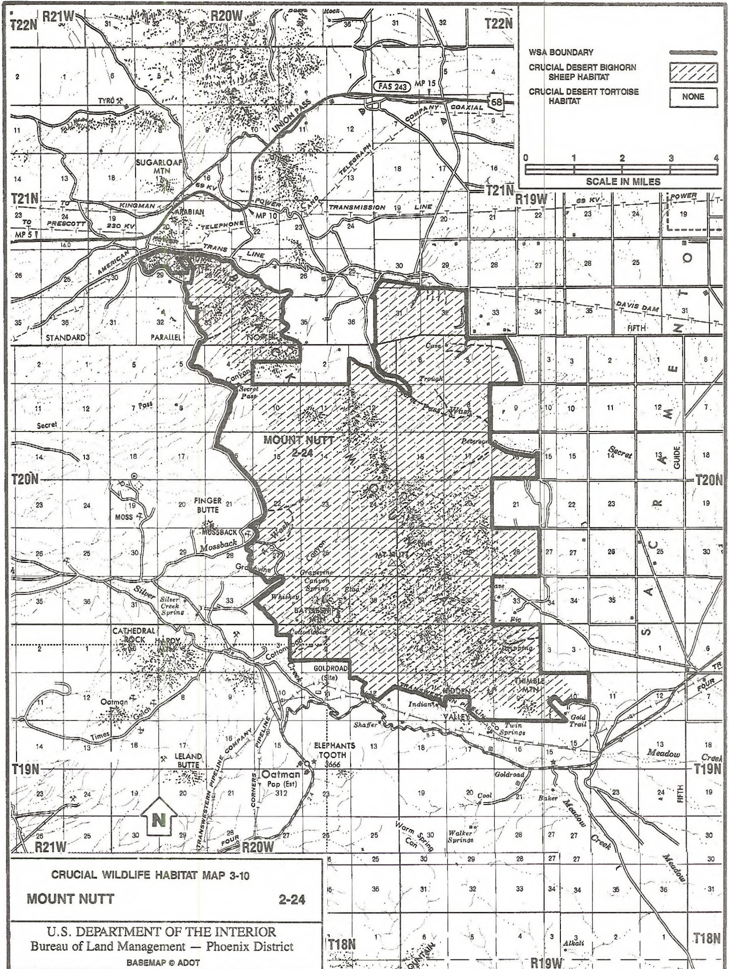


MINERAL POTENTIAL AREAS MAP 3-9

MOUNT NUTT **2-24**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT



CRUCIAL WILDLIFE HABITAT MAP 3-10

MOUNT NUTT 2-24

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District
BASEMAP © ADOT

WSA coming in from nearby Sacramento Valley. An endemic snail known as Goldroad Fonticellia is known to live at several spring sites within the WSA. Crucial habitats or population numbers for these three species are unknown, as are population numbers and ranges of the 13 other special-status species.

WILD HORSE AND BURRO PROGRAM

Burros live throughout the area, but highest population densities are in the canyons and east and west slopes of the major ridge. A population of 100-125 burros are dependent on many springs throughout the area. About 10-15 white burros and 5-10 paint burros are maintained on the west slope from Thumb Butte to Silver Creek on the south. White and paint burros are uncommon in the wild so interest and protection in this area is more intense than other areas within the Black Mountain Herd Management Area.

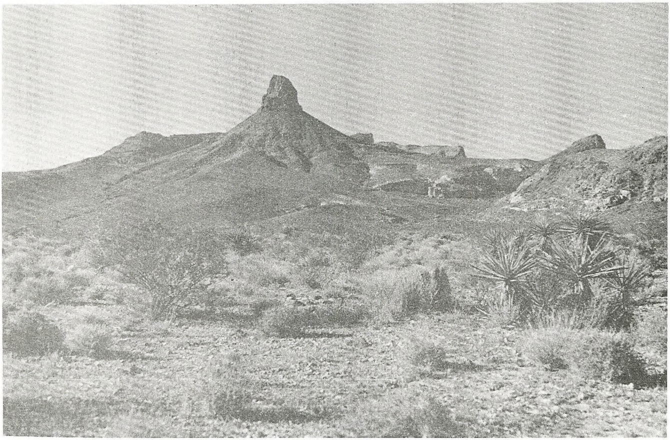
Capture of excess wild burros occurs on a regular basis and includes roping (helicopter and motor vehicles) wing-trapping (helicopter and motor vehicles), and haytrapping (motor vehicles and temporary corrals). Because of the rugged terrain, most capture efforts are limited to the outer fringes with the exception of low level helicopter flights to drive the burros from the interior.

To prevent overuse by burros, vegetative monitoring plots at Thumb Butte, Secret Pass, Grapevine Canyon, Cottonwood Canyon and Cave Spring are read annually. Access along existing roadways and washes is necessary to monitor burro use at these locations. About every five years a burro population inventory occurs, using low level helicopter flights.

CULTURAL RESOURCES

The known cultural resources consist of six sites probably eligible for the *National Register of Historic Places*. These sites are rock shelters, pictographs and petroglyphs. One of the rock shelters is the Bighorn Cave which has recently (1986) been tested by Northern Arizona University and the Museum of Northern Arizona. Bighorn Cave was occupied several times during the past four thousand years and the artifacts found within the cave are in an excellent state of preservation. Bighorn Cave has great potential for future excavations to reveal ways people lived in northwestern Arizona in prehistoric times.

The pictographs are painted in various shades of red, black, and white and are important because they are some of the best examples of painted prehistoric designs found anywhere in Arizona.



Thimble Butte — Mount Nutt WSA.

LIVESTOCK AND RANGELAND USES

Portions of three grazing allotments are within the WSA: Thumb Butte (9%), Silver Creek (13%) and Black Mountain (29%). Thumb Butte and Silver Creek are designated ephemeral.

An allotment management plan has been developed for Black Mountain. Approximately 240 AUMs of use are associated with the area (total use of controlled lands equals 1,248 AUMs).

LAND USES

The WSA contains 29,190 acres of of public land. Nonfederal holdings within the WSA are 589 acres of private surface and mineral estate and 9,325 acres of private mineral estate. The northern boundary to the WSA is formed by a power transmission line (200′ R/W) and road (50′ R/W) operated by the Western Area Power Administration under authorization PHX-085710. A small portion of the northwest boundary of the unit is formed by a buried cable (30′ R/W) and road (30′ R/W) operated by American Telephone and Telegraph under authorizations AR-033355 and A-17839, respectively.

A coal slurry pipeline operated by Black Mesa Pipeline Company under authorization A-438 (50′ R/W) passes through approximately 2¼ miles of the WSA in the northwest corner. The pipeline is buried and generally unobtrusive except for marking signs and valve access points protected by above ground CMP.

Citizens Utilities 100-foot R/W PHX-34352 for a power transmission line intersects and passes through portions of the western edge of the right-of-way. The line has been abandoned and the Bureau will pursue termination of the right-of-way through voluntary relinquishment or by decision.

The southern boundary of the WSA is formed by a natural gas pipeline operated by Transwestern Pipeline Company within a 50-foot R/W (AR-023662). Citizens Utilities Company 100-foot R/W (A-14911) for a 69 kV powerline also forms a small portion (1/4-mile) of the southern boundary. Four Corners Pipeline Company crude oil pipeline (50′ R/W AR-017080) also runs along the southern boundary to the WSA.

An important utility corridor containing two pipelines and several powerlines runs along the southern boundary of the WSA.

A small 5-foot-wide Guying R/W (A-16822, Citizens Utility Company) intrudes a short distance into the northeast corner of the WSA.

A 2.5-inch white PVC pipe runs from Flag Springs within the WSA down Cottonwood Canyon to Oatman. The pipe is the sole water source for the town of Oatman. There is no record of a right-of-way for the line on public land or the recently conveyed state lands.

VEGETATION

The vegetation in this WSA includes associations of both the Mohave desertscrub and the great basin conifer woodland formations (Brown et al. 1979). Creosote bush — white bursage, creosote bush — yucca, blackbrush, and *Salazaria* — mixed shrub associations dominate the area. The higher elevations around Mount Nutt support a juniper — mixed grass — mixed shrub association. A few saguaro cacti grow in the southwestern portion of the unit. Several spring communities exist within the WSA. A variety of riparian vegetations is at these springs and in the adjacent washes and canyons. These associations include cottonwood — willow, juncus — monkey flower, and submergent aquatic communities. Of special interest is the iris "blue-eyed grass" (*Sicyrinchium demissum* Greene).

Although no formal botanical inventories have been conducted in this area, linear leaf rabbit brush (Table 3-4) is found east of Sitgreaves Pass in the southwest corner of the WSA. Suitable habitat for this species is on the western boundary of the unit. This same area provides suitable habitat for desert cassia and horsebrush (Table 3-4).

WARM SPRINGS WSA

(AZ-020-28/29) 114,800 acres

WILDERNESS VALUES

Location and Boundaries. The Warm Springs WSA lies 20 miles southwest of Kingman and is bordered by the towns of Oatman to the northwest and Yucca to the east. The WSA is bounded by private land along the northeast and southern boundaries. The western boundary is partly the Davis Dam-Parker Dam 230 kV power transmission line and partly the old U.S. 66 highway. A portion of the east boundary follows the old Atchison-Topeka and Santa Fe Railroad grade north to the town of Yucca.

Naturalness. The Warm Springs WSA has a complex topography supporting a variety of plant and animal communities. The unit can be divided into several different land forms. The first of these is the 10-mile-long Black Mesa which extends from the northern boundary to the south-central and is dissected by numerous canyons and side canyons. At the edge of the mesa an average drop of 800 feet isolates the upper flats from the maze of intricate canyons. Most of the side canyons average three miles in length and empty into a larger more open drainage. The most extensive of these is the Warm Springs Canyon which winds through the WSA paralleling the mesa for most of its length, eventually joining a large unnamed drainage from the east. At the junction of these two canyons lie the three small warm springs from which the major canyon derives its name.

The canyon mouth at Warm Springs opens into a wide valley bordered by mountains. This region is a complex system of steep cliffs rising to sharp peaks and ridges with numerous hidden canyons and spires—among the most colorful in the unit. Warm Spring Wash flows out of the mountains and continues across a large basalt flow which is now a long flat plain nearly impassable because of basalt boulders. To the north and east of the lava flow is an area of low rolling hills which form the southwestern perimeter of the WSA. The northern extent of these hills is McHeffy Butte, about three miles in length and 300 feet above its surrounding terrain.

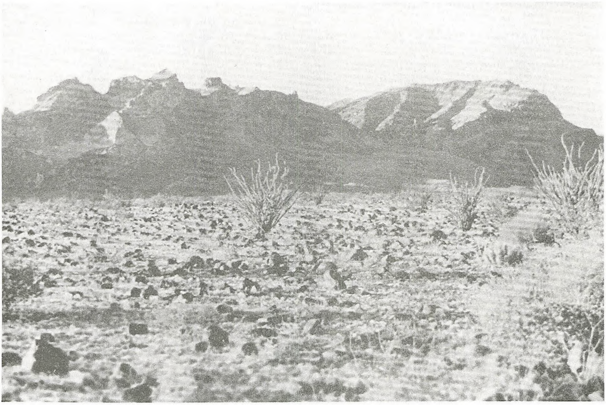
Black Mesa drops off precipitously to the east with several canyon drainages flowing out into the large alluvial valley below. This Valley is drained by a sand wash and supports a variety of plants, including thick stands of Mohave yucca. Several large drainages found in the eastern portion of the unit contains several small springs. The most prominent are Antelope Springs (a minor seep) and Alkali Spring (a small open body of water devoid of surrounding vegetation) because of high concentrations of mineral salts around the spring.

This WSA offers a fine array of the plant communities commonly found in the Mohave Desert. To the north in the slightly higher canyons, blackbrush grow in large communities with associations of Mexican bladdersage, Indian paintbrush and numerous other forbs. To the south, with lower elevation and slightly drier climate, are mesquite, palo verde, ocotillo, brittlebush, prickly pear and hedgehog. Smoke tree and catclaw are usually found in the lower drainages and the washes. Black Mesa is primarily covered with grasses and forbs, but also supports occasional stands of yucca accompanied by several species of cholla.

Minor human imprints include 48 miles of vehicle ways, 4.6 miles of fenceline, historic and some recent but minor mining developments, and several livestock and wildlife water developments. Most of the vehicle ways exhibit signs of past construction. Many are old bulldozer trails that were built to provide access to a drill hole or mineral prospect, but are now partially revegetated, usually eroded and show no sign of maintenance or regular and continuous use. Most offer very difficult passage for 4-WD vehicles and present little impact to the apparent naturalness of the unit. The remaining vehicle ways are impromptu routes developed solely by the passage of vehicles. Erosion has made vehicular use of these ways difficult.

The most common mining imprint is an occasional small mineral prospect—usually 4 x 10 feet wide and 4 x 6 feet deep. Most are partially filled with slumping side walls. The rock and dirt excavated from the hole is scattered about and partially vegetated. These prospects are not readily noticeable. Recent mining activity has been exploratory core drilling and trenching operations just south of McHeffy Butte in the west-central portion near the end of a vehicle way and 0.5 miles from the WSA boundary. Reclamation at this site was excellent, with little trace of the exploratory operations remaining.

The water developments consist of three spring sites which have been improved primarily for livestock use. Portions of two buried pipelines carry water from springs



Black Mesa, a ten-mile lava flow, canyons, washes and flats are among the landforms found in the southern Black Mountains within the Warm Springs WSA.

within the unit to water tanks and troughs outside the unit. The only visible evidence of their presence is a slight berm that has revegetated. Three masonry dam/pothole catchments and six developed springs equipped with water troughs and exclosure fences have also been constructed within the WSA. These facilities blend into the vastness of their surroundings quite well and therefore, have but a minimal impact on the WSA's naturalness.

Solitude. Outstanding opportunities for solitude exist in a wide variety of settings in this WSA. A six-mile hike through rugged terrain gives access to the central core of the WSA where broad mesas drop abruptly into wide canyons more than 800 feet deep. Numerous side canyons present varied landscapes and invite exploration. The southwestern portion of the WSA is more broken with sharp peaks and large cliffs. Narrow winding canyons open into small valleys separated by steep ridges. The broken jumbled topography of this portion of the unit provides outstanding opportunities for solitude.

The southern portion of the WSA is an alluvial plain which displays notably large expanses of undisturbed desert pavement. Here a recreationist can walk for hours without encountering signs of man. Those in search of solitude can sit on the high cliffs above the plains and look out over miles of undeveloped land.

Along the eastern portion of the unit the high bluffs of the mesas stand 1,800 feet above the desert plain. They are dissected by numerous canyons that twist and turn as they travel through the mesa, to eventually form bajadas at the base of the bluffs. The wide variety of landforms and vegetation enhances opportunities for solitude. The large size of this WSA, the often dramatic scenery, and the complex topography provides the recreationist with an outstanding feeling of isolation in a land remote from the influence of humans.

Primitive And Unconfined Recreation. The Warm Springs WSA has a wide diversity of zoological and geological features offering outstanding opportunities for primitive recreation. The colorful scenery and varied topography invite exploration. Water at Warm Springs and other springs allow for extended camping trips of several days. Horseback riding and hiking is further enhanced by the presence of an old historical trail and numerous feral burro trails. These trails make walking or riding through the often rugged and broken terrain of this unit relatively easy. The large size of the WSA, combined with the diversity of topography, enables the recreationist to take long treks by foot or horseback. The mountains adjacent to Warm Springs offer many opportunities for rock climbing. The rugged colorful terrain with a diversity of cliffs, spires and ridges provides both difficult technical climbs and easily accomplished scrambles. The abundance of wildlife offers outstanding opportunities for hunting, photography or simply observing the various species. Sightings include golden eagles, desert mule deer, and bighorn sheep.

Special Features. The southern half of the WSA is reserved for wildlife and managed accordingly. The WSA supports a healthy herd of desert bighorn sheep which is a state-listed Group III whose status in Arizona may be in jeopardy in the foreseeable future. Because large portions of the WSA are lambing grounds crucial to bighorn reproduction, the WSA is crucial bighorn sheep habitat.

MINERALS AND ENERGY RESOURCES

The WSA has produced gold and silver from flat lying quartz veins associated with a mineralized zone near the foot wall of a detachment fault coincidental with the Tertiary volcanic and Precambrian granite boundary. This large zone is recognized from the vicinity of Boulder Dam on the north, extending southward through the Warm Springs WSA, along the Black Mountains to possibly the highly mineralized zones in the Mohave and MacCracken Mountains and has produced gold, silver, with minor lead and zinc. High grade zeolites, mordenite and clinoptilolite are found as alteration products of the Tertiary ash flows along the western side of the Warm Spring WSA in the vicinity of McHeffy Butte and north near Oatman, AZ. Geological inference suggests that these same zeolites should be found in the same units at other locations throughout the WSA. High grade kaolinite is found on private and federal minerals in section 35, T. 17 N., R. 19 W., and should be expected to be present elsewhere in similar units in the WSA. Industrial grade perlite is found in section 36, T. 17 N., R. 18 W. and fire opal, a precious gem, has been found in Tertiary rhyolite flows at the north end of the WSA in section 19, T. 19 N., R. 19 W. Geological inference would suggest that perlite and fire opals should be found at other locations throughout the WSA in the same rock unit. A north/south band within the WSA has high potential for gold and silver mineral development. A rare semi-precious gem, fire agate, is also found in certain units within the upper Tertiary volcanics in the central and northern areas of the Mount Nutt WSA to the north, and has been found in the Warm Springs WSA near the Warm Spring. See Table 3-1 and Map 3-11 for high and moderate mineral potential.

The Warm Springs WSA lies within the Overthrust Belt and is considered potentially valuable for oil and gas. The potential for geothermal is high in the southern half of the WSA. There are no known leasable minerals in the WSA.

As of August 26, 1986, there were 283 placer and lode mining claims, along with historic mining and active exploration. Currently there are two open Mining Plans on file with the Bureau, one closed file and numerous sampling and mapping projects. The minerals estate on 58,079 acres on 88 parcels within the WSA are privately owned.

RECREATION USES

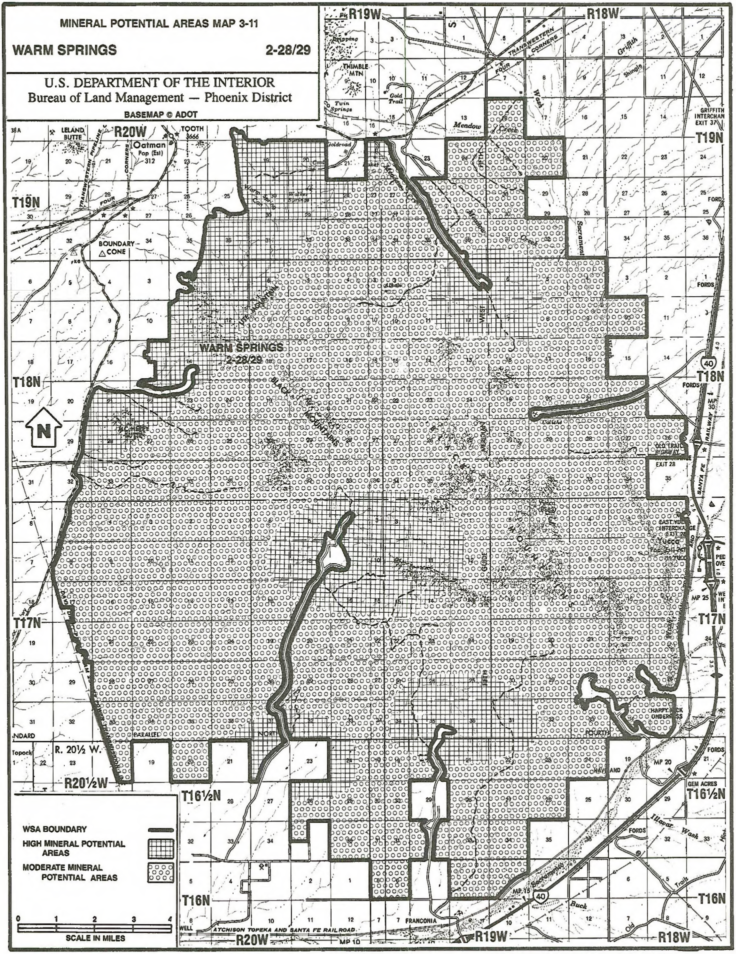
This very large WSA provides an array of opportunities for users seeking primitive and unconfined types of recreation. The immensity and relative inaccessability of this area and its rugged terrain have, however, so far discouraged casual use here — motorized or nonmotorized. As a consequence, this area is less well known and is therefore used less than the accessible and popular Mount Nutt WSA. Nonmotorized users can take extended overnight

MINERAL POTENTIAL AREAS MAP 3-11

WARM SPRINGS **2-28/29**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT



backpack trips during the cooler seasons. The potential for viewing and photographing desert bighorn sheep is excellent, especially during the hot and dry summer months when the sheep are concentrated near those several springs that have been developed specifically for their use.

Warm Springs WSA contains 48 miles of vehicle ways which enter from several points along its perimeter. Several long cherry-stemmed roads provide motorized users with access into the unit. Most of the vehicle ways within the WSA were constructed many years ago to serve as equipment access routes during brief episodes of exploratory core drilling. These routes however, are maze-like, eroded, often impassable, and hold few attractions for current motorized recreational users. Most of the cherry-stemmed roads and some of the vehicle ways access spring sites. These routes attract some recreational 4-wheelers, but most motorized use within the WSA is for hunting access. Present nonmotorized use in this WSA is 250 VDY and motorized use 600 VDY.

WILDLIFE VALUES

Mohave desert shrub with associated riparian and cliff-canyon habitats is the dominant habitat type throughout the unit. The Black Mesa supports a desert grassland community. The WSA supports approximately 230 vertebrate species of which 21 are special-status species (Table 3-2). See the Black Mountains URA for detailed species lists and life history information (BLM 1977).

The WSA has 76,800 acres of crucial bighorn sheep habitat (Table 3-3 and Map 3-12) and totally encompasses the Columbine Springs lambing grounds. There are approximately 100 bighorn sheep within the WSA (Table 3-3). According to the Black Mountains Habitat Management Plan this WSA has the best bighorn sheep habitat in the Black Mountains.

There are 5,120 acres of suitable peregrine falcon habitat in the unit. Suitable habitat for the desert tortoise and Gila monster exists throughout the area. Suitable habitat for Gilbert's skink is found throughout the area in dry and wet canyons in association with turbinella oak. Ferruginous and Swainson's hawks are expected along the eastern fringes of the WSA coming in from nearby Sacramento Valley and also on Black Mesa. A snail, known as Goldroad Fonticellia, is endemic to the Black Mountains and found in this WSA. Crucial habitats or population numbers for these six species are unknown. Population numbers and ranges of the 13 other special-status species is not known.

WILD HORSE AND BURRO PROGRAM

This is a very large unit with a population of 200-250 burros are concentrated around several major springs. There is some cross over but for the most part, independent populations remain associated with home territory around these major water sources.

There is a well defined burro population near Cool/Walker Springs, Baker Spring and on south to Antelope/Alkali Springs. A population of 50-55 burros reside in this area. Capture of excess burros occurs on a regular basis near Cool Springs, Baker Spring and Alkali springs and includes roping (helicopter and motor vehicle), watertrapping (motor vehicle and temporary corrals) and wingtrapping (helicopter and motor vehicles) methods. Capture access is necessary along an existing wash/way to Antelope/Alkali spring. Antelope Spring is an improved site with a burro proof fence and water piped to an outside trough. Regular maintenance is necessary to ensure that no burros are trapped inside the exclosure. Vegetative monitoring sites are at Cool/Walker spring and Antelope/Alakali Spring.

Another small fairly well defined population of 20-25 burros lives around Caliche Spring. These are fenced off from the population at Antelope/Alkali spring but there is some cross over between the Caliche and Warm Springs populations.

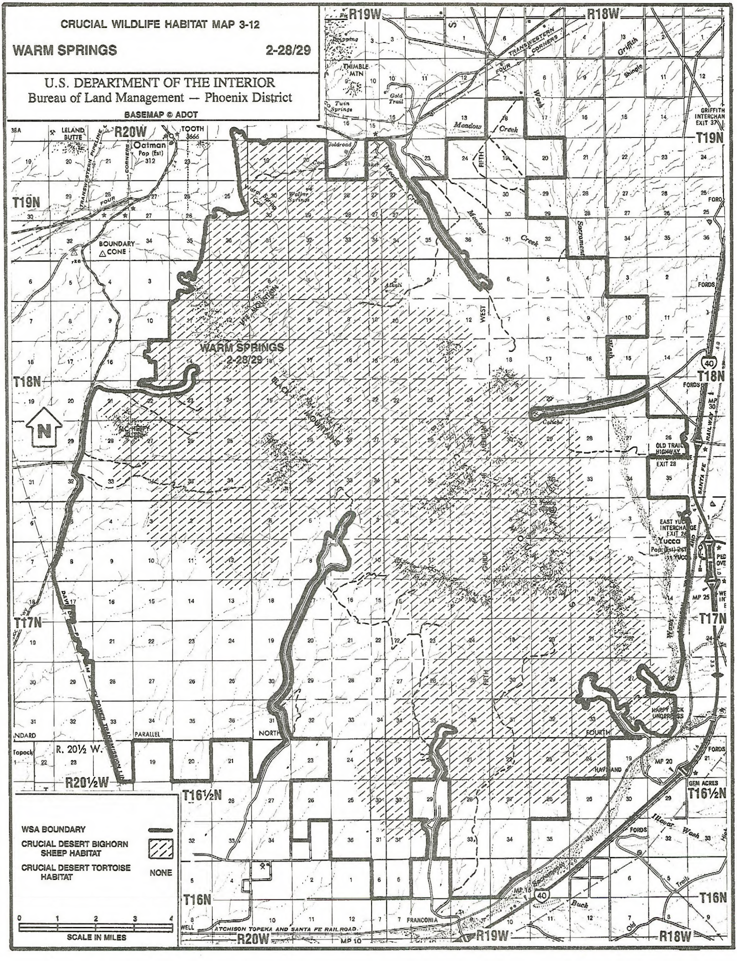
Population reduction by live capture occurs every two or three years. A vegetative monitoring plot is also located within one half mile of the spring.

The Warm Springs area is the hub of the major burro population within this unit. A population of 130-175 burros inhabit this area. This population, depending on the availability of water (pot holes) ranges from the southeast corner throughout the Warm Spring Canyon area over to McHeffy Spring.

The main access to the area and heart of the burro population is the road from the Franconia Crossing of the Santa Fe Railroad. Periodic road maintenance is required to keep this entrance passable by vehicles and horse trailers. Road maintenance is required all the way to the Warm Springs. Because of limited water, this area lends itself well to watertrapping. two of the three main springs are fenced with exit gates installed. A temporary corral is placed around the center spring when watertrapping is in progress. Watertrapping has also occurred at McHeffy Spring four miles to the west. Access to these two areas is essential for population control.

In addition to the fences around the three warm springs, improvements are also in place at the other major water sources. McHeffy Spring has a burro proof fence around it with a water trough outside for multiple use. The outside water source must be maintained to ensure that no burros get trapped inside the exclosure and die. Other springs which have burro proof fences that have in the past entrapped burros leading to their deaths include Columbine Spring, Sheep spring and Metate Spring. Visits to these sites are necessary to ensure protection of the riparian zones and safety of the burros. A burro proof fence is also in place at Cross Seep and must be monitored periodically. Ways along major washes provide access to within 3/4 of a mile of these sites.

To ensure no overgrazing in the area, vegetative monitoring sites have been established within one-half mile of McHeffy Springs, Metate Springs, Warm Springs East, and Warm Springs North. Low level helicopter flights are necessary about every five years for burro population inventory.



CRUCIAL WILDLIFE HABITAT MAP 3-12

WARM SPRINGS 2-28/29

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © ADOT

WSA BOUNDARY	▬
CRUCIAL DESERT BIGHORN SHEEP HABITAT	▨
CRUCIAL DESERT TORTOISE HABITAT	NONE

Burros being herded into Wing Trap by wranglers and a helicopter. Burro herd sizes are managed to prevent overpopulation and damage to desert ecosystems.

CULTURAL RESOURCES

The known cultural resources are four sites that are probably eligible for the *National Register of Historic Places*. These sites are temporary prehistoric camp sites and petroglyphs. The camp sites have a variety of tool types and ceramics. The petroglyphs represent the only known occurrence in this part of the Black Mountains.

LIVESTOCK AND RANGELAND USES

Portions of four grazing allotments lie within the WSA: 1) Black Mountain Unit A (approximately 40%), Silver Creek (less than 1%), and Boriana Unit B (73%), and Happy Jack Wash (38%). Silver Creek and Boriana Unit B are designated ephemeral. Happy Jack Wash is perennial. A total of 411 AUMs of use are within the WSA. Total use of controlled lands on Happy Jack Wash is 1,082 AUMs.

The Black Mountain Allotment is under Allotment Management Plan, with 500 AUMs of use in the WSA.

LAND USES

The WSA has 114,800 acres of public land with the 58,079 acres of private mineral estate. A portion of the western boundary to the WSA is formed by old Highway 66, now maintained by Mohave County within a 100-foot R/W (A-21021). The southwestern boundary to the WSA is formed by a power transmission line operated by Citizens Utilities Company in 155-foot R/W (A-8891).

A 230 kV transmission line operated by Western Area Power Administration (WAPA) within 200-foot R/W PHX-085193 runs adjacent to and west of the Citizens line. AR-01868, a 100-foot-wide road R/W, provides access to the WAPA line and also forms part of the western boundary of the WSA. The eastern boundary is partly formed by a 200-foot-wide railroad R/W (PHX-086796) operated by Atchison, Topeka & Santa Fe Railroad Company.

VEGETATION

The vegetation in this WSA is characteristic of the Mohave desertscrub formation (Brown et al. 1979) with a few species characteristic of the Sonoran desertscrub formation. Creosote bush — white bursage, creosote bush — yucca, blackbrush, and *Salazaria* — mixed scrub associations are widespread. Palo verde and saguaro are found in limited numbers on the south-facing slopes and in canyons on the western side of the WSA. Smoketree is common in the sandy washes along the western side of the area. Black Mesa supports a yucca — mixed shrub — grassland association. In addition, several spring communities and a variety of riparian associations are at these springs and in the adjacent washes and canyons. These associations include cottonwood — willow, juncus — monkey flower, and submergent aquatic communities. Of special interest is the iris "blue-eyed grass" *(Sicyrinchium demissum* Greene).

Although no formal botanical inventories have been conducted in this area, linear leaf rabbit brush (Table 3-4) grows east of Sitgreaves Pass. Suitable habitat for this species is in the northwestern portion of the unit. Much of the western portion of the unit provides suitable habitat for desert cassia and horsebrush (Table 3-4).

Approximately five sections along the periphery in the southeastern portion of the WSA near the town of Yucca are suitable for yucca harvesting (see the vegetation narrative for the Mount Tipton WSA).

View of the 640 acre South Bradshaws East WSA, looking northwesterly to the Prescott National Forest and the Castle Creek Wilderness.

SOUTH BRADSHAWS EAST WSA

(AZ-020-84A) 640 acres

WILDERNESS VALUES

Location and Boundaries. This WSA is in south central Yavapai County approximately seven miles northwest of Black Canyon City. This unit is only one section of BLM-administered public land totaling 640 acres. The WSA is bounded on the north by the Prescott National Forest's Castle Creek Wilderness Area and the east, west and south by state land.

Naturalness. The unit is the southern portion of the Bradshaw Mountains—a very rugged and steep mountainous area. A steep ridge is along the west and north boundaries and the rest of the unit is steep east-facing slopes with a large drainage. The vegetation of the WSA is the interior chaparral type—scrub oak, mountain mahogany and some scattered juniper. There is evidence of a past forest fire, but the area has mostly recovered through the natural succession process.

Solitude. Outstanding opportunities for solitude and seclusion exist within this unit. The ridge and drainage with several opportunities to be alone, the isolated location, the lack of vehicular access and the contiguous Forest Service Castle Creek Wilderness Area all enhance the opportunities for solitude.

Primitive and Unconfined Recreation. Although this unit is small, opportunities for rock climbing, hunting, hiking and photography exist. The presence of the Castle Creek Wilderness Area in the Prescott National Forest enhances these opportunities for primitive and unconfined types of recreation.

Special Features. The unit is adjacent to the Forest Service's Castle Creek Wilderness Area. The unit also contains habitat for the federal candidate and state-listed Gilbert skink which may inhabit the area.

MINERALS AND ENERGY RESOURCES

As of February 1987 no mining claims were located within this WSA. The unit is within a heavily mined historic mining area. Since the area is remote and access is very limited, mining claims have been nonexistent. Mining has existed for many years in and near the mining districts of Tip Top, Kay, Humbug, Lane Mountain and Silver Mountain. The following minerals have been located and mined in the area: tungsten, sheelite, gold, silver, lead and some copper. The potential for oil, gas and geothermal resources in this WSA is low. Overall mineral potential for this unit is classified as moderate. See Table 3-1 and Map 3-6 for mineral potential.

RECREATION USES

Most of the recreational uses are hiking, hunting and sightseeing. The nearest vehicle trail is 0.5 mile from the western and southern boundaries. Recreational four-wheelers have no direct access to the unit because of the ruggedness. In recent years the area has been used mainly by day hikers and rockhounders. There may be some extended backpacking trips because of the adjacent wilderness area in the Prescott National Forest. Present overall visitor use within the WSA is estimated to be 100 VDY,[1] all of which is nonmotorized.

WILDLIFE VALUES

Chaparral is the only important habitat type within the South Bradshaws WSA. The area is inhabited by mule deer, coyote, bobcat and various rodent species. The unit also is potential habitat for the federal candidate and state-listed Gilbert's skink.

CULTURAL RESOURCES

Since no archaeological survey has been undertaken in South Bradshaws East WSA, inadequate information is available on the cultural resources located within its boundaries. It must be considered, however, that the topography, vegetation and availability of water make the chances very likely that at least one site of *National Register* quality exists in this WSA.

SIERRA ESTRELLA WSA

(AZ-020-160) 14,830 acres

WILDERNESS VALUES

Location and Boundaries. The WSA lies about 15 miles southeast of Phoenix, Arizona. The WSA is bounded on the north and east by the Gila River Indian Reservation, with powerlines and roads forming the west and south boundaries.

Naturalness. The WSA is in a portion of the central Sierra Estrella Mountains. The steep mountain peaks, deep canyons and narrow ridges of the Sierra Estrella Mountains (Estrellas) characterize the topography of the area. About one-quarter of the mountain range is in the inventory unit.

Butterfly Mountain in the northeast corner of the unit rises 2,600 feet about the bajada to an elevation of 4,119 feet. This elevation change is greatly accented because of the short distance in which it occurs, approximately two miles. Accompanying the high peaks are narrow ridges which drop off into steep canyons. The mouths of these canyons open into a bajada which extends outside the unit.

Solitude. Opportunities for seclusion and solitude are not considered to be outstanding; however, they are enhanced by the presence of the adjacent Indian Reservation from which the Sierra Estrellas appear wild. Those opportunities relating to the reservation were not considered in determining the unit's outstanding opportunities for solitude.

Primitive Recreation. The Sierra Estrellas as a whole offer a good opportunity for primitive recreation. Yet only a small portion of the range is included within this WSA. This portion does not offer much diversity in the type of recreation opportunities possible. Opportunities for hiking are limited due to terrain and possible destinations because many scenic areas of the Estrellas are on the Reservation. Some opportunities for botanical sightseeing are available because of the varied plant communities resulting from elevation change. Opportunities for hunting also exist through most of the area.

Botanical Values. The vegetation is lower Sonoran upland type with paloverde and saguaro dominant. The top of the mountain has shrub-liveoak and juniper in small protected sites. Elephant bush reach the northeast extension of its range on the lower slopes. No threatened or endangered species of plants are known to grow in the area.

MINERALS AND ENERGY RESOURCES

As of February 1987, there were 242 mining claims—both placer and lode. The area within the WSA boundaries has been rated low to high in mineral potential. The tectonic history of the Sierra Estrellas is similar to other high mineral potential areas in central Arizona. Known mineralization includes gold, silver, copper, manganese, muscovite, iron and titanium. See Table 3-1 and Map 3-13 for mineral potential.

RECREATION USES

Most of the recreational use in this area is vehicle-based. Recreational 4-wheelers and hunters can access many areas in the WSA. Day hiking and rock climbing are increasing in popularity in the area. Present visitor use within the WSA is 1,500 VDY, including 1,200 motorized VSD and 700 nonmotorized VDY.

West slope of Sierra Estrella Mountains — Sierra Estrella WSA.

WILDLIFE VALUES

The WSA consists of primarily Sonoran upland habitat. It contains 12,280 acres of crucial habitat for desert tortoise (a candidate for federally threatened and endangered listing) and 9,830 acres of crucial habitat for desert bighorn sheep, a state-threatened species. See Map 3-14 for crucial habitat.

The top of the mountain has shrub-liveoak and juniper in small protected sites and an isolated population of giant spotted whiptail lizard in association with this remnant vegetation.

Approximately 480 adult tortoise inhabitat the WSA. Fifteen to 20 resident bighorn roam the entire Sierra Estrella range. They concentrate around two waterholes, Butterfield Tank and Montezuma Tank, during dry summer months.

Other species of special interest inhabit are golden eagles, prairie falcons, Cooper's hawks, mule deer, javelina and mountain lion.

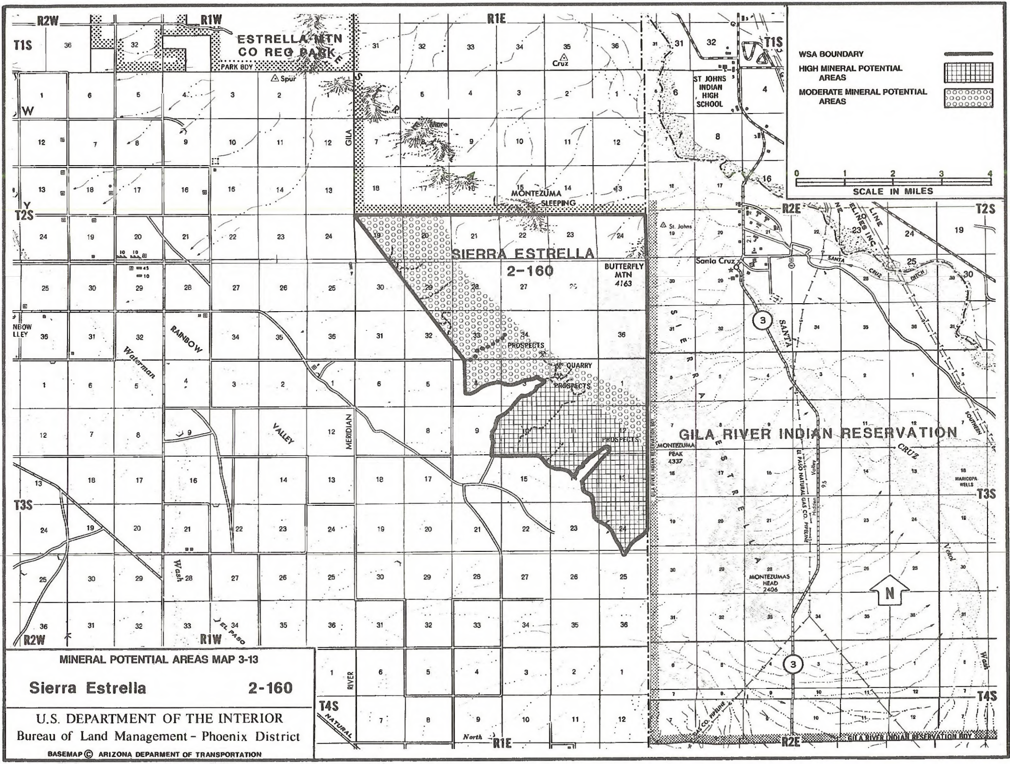
CULTURAL RESOURCES

One cultural site has been recorded within the Sierra Estrella WSA which is potentially eligible for the *National Register of Historic Places* (NRHP) as well as the Arizona State Register. This site is a rock art site which may be associated with the prehistoric Hohokam culture.

Only a limited amount of archaeological survey has been done in this WSA. Based on topographic and other ecological factors, the potential is very good for other sites with NRHP qualities.

LAND USES

One temporary right-of-way has been granted for a solar-powered communication facility. This right-of-way meets

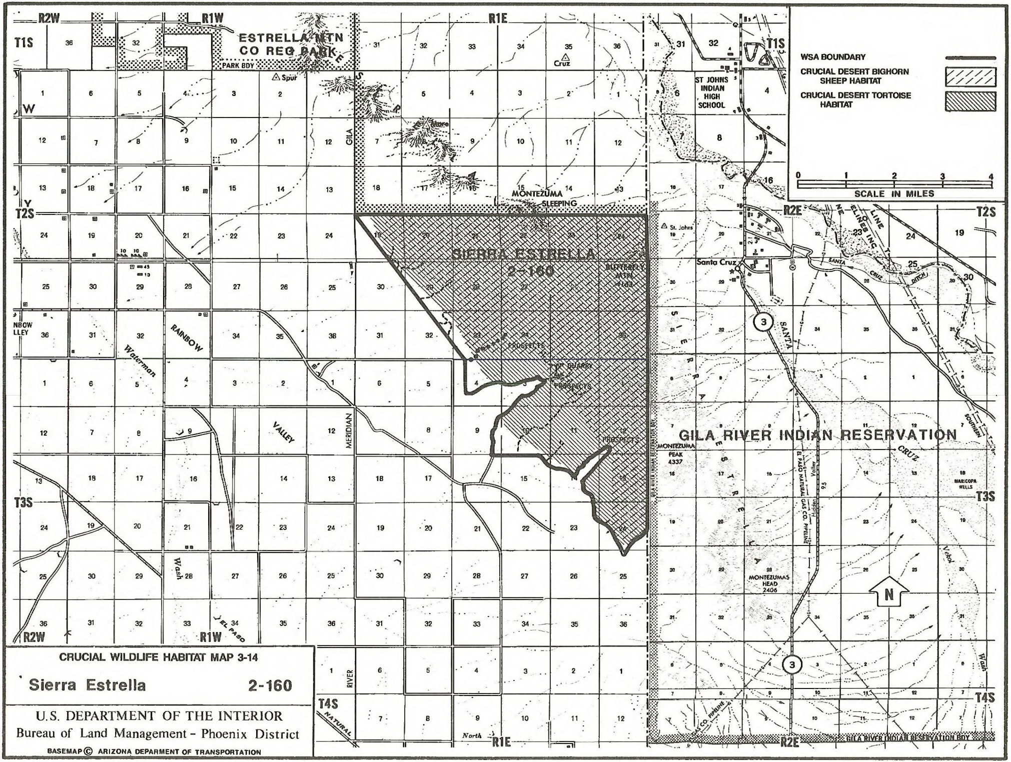


MINERAL POTENTIAL AREAS MAP 3-13

Sierra Estrella 2-160

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District

BASEMAP © ARIZONA DEPARMENT OF TRANSPORTATION



CRUCIAL WILDLIFE HABITAT MAP 3-14

Sierra Estrella 2-160

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management - Phoenix District

BASEMAP © ARIZONA DEPARMENT OF TRANSPORTATION

the nonimpairment requirements of the *Interim Management Policy* and can be removed immediately if the WSA is designated wilderness.

Due to the small useable space, there is only room for 6-10 additional sites that could be developed in the area. Because of the rough terrain, a road or powerline would not be practical. Therefore, any future site would be solar powered and installed by helicopter.

RAGGED TOP WSA

(AZ-020-197) 4,460 acres

WILDERNESS VALUES

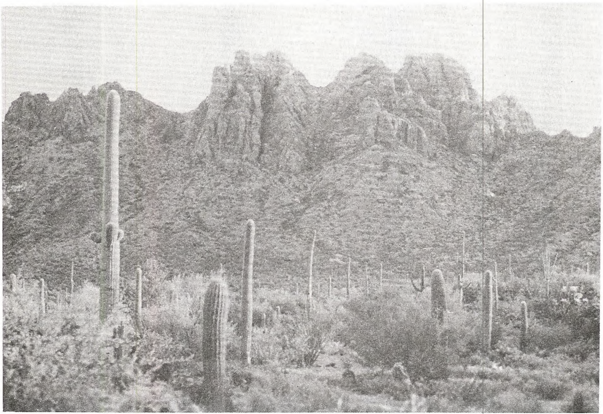
Location and Boundaries. This WSA is in north-central Pima County approximately 33 miles northwest of Tucson and 22 miles south-southeast of Eloy. The unit comprises 4,460 acres of public land administered by the BLM. It is bounded on the north by the Silver Bell and Red Rock roads; the east boundary follows a pipeline road while the west boundary follows a road south from Silver Bell Road to the BSPK Mine. The southern boundary is formed by portions of a powerline access road and by private and state land.

Naturalness. This unit comprises the northeasternmost portion of the Silver Bell Mountains. The WSA is dominated by the 3,907-foot Ragged Top Peak, a volcanic plug which rises 1,600 feet above the valley floor. Wolcott Peak, 3,200 feet, is immediately southeast of Ragged Top Peak. The two peaks are collectively called Ragged Top and are composed of laramide volcanics.

Vegetation of the area is a paloverde-saguaro community which becomes sparse on the upper reaches of Ragged Top. Other common species include acacia, ironwood, mesquite, creosotebush and as many as 13 species of cacti.

> "Rock shelters in cracks on Ragged Top Mountain contain 11,000-year-old nests of packrats (Neotoma). They disclose the late Pleistocene presence of juniper (Juniperus sp.), one of relatively few known fossil occurrences of this tree in the eastern part of the Sonoran Desert. Junipers no longer grow on Ragged Top." (A Survey of Potential Natural Landmarks, Biotic Themes of the Mohave-Sonoran Desert Region. Paul S. Martin, Department of Natural Sciences, University of Arizona. 1979.)

Significant imprints of man and his activities are in much of the area, compromising the wilderness quality of the unit. The road forming the western boundary of the unit leads to past mining activity at the top of Ragged Top. Several camping sites are found along its length. A series of jeep trails north of the peaks are well used by ORVs and



Bighorn sheep habitat is found in the rugged cliffs and escarpments of the Silverbell Mountains — Ragged Top WSA.

hunters. The cumulative effect of these intrusions, the powerline on the south and pipeline road on the east, as well as current levels of recreational use, renders most of the area in an unnatural condition. However, portions of the bajadas within the WSA boundary remain in a natural condition influenced primarily by the forces of nature and livestock grazing.

Solitude. The small size and irregular shape of the natural portions of the unit, the number of intrusions in the vicinity and the presence of human activity within the area significantly limit the opportunities for solitude.

Artificial corridors created by the cherrystemmed boundary around the intrusions and by the narrow shape of the unit create use patterns which tend to bring uses together and thus limit the opportunities for solitude.

Primitive and Unconfined Recreation. The recreational value of this unit lies in its diversities. Opportunities for hiking, rock climbing, rockhounding, sightseeing and photography occur within the unit. The rugged nature of the terrain with challenging slopes on Ragged Top offers outstanding opportunities for hiking and rock climbing. The unit is also an excellent area for viewing wildlife. Several species of threatened and unique wildlife, including desert tortoise, bighorn sheep, Gila monster and possibly the spotted bat, may be seen in the unit. The rugged nature of the unit with its dramatic crags and spires, along with the opportunities for plant and animal observation, makes this area an outstanding location for the photographer.

Special Features. The unit's rugged topographical features dominated by Ragged Top and Wolcott Peaks and the dense colorful vegetation, provide outstanding scenic values which enhance the primitive character of the unit. Zoological values within the unit include a diversity of species as well as the verified presence of three state-listed threatened and unique species (See Primitive and Unconfined Recreation). Botanical values center around the diversity and density of cacti species. At least 13 and as many as 25 species representing at least seven genera are found within and near the WSA.

MINERALS AND ENERGY RESOURCES

As of February 1987 there were 54 mining claims within the WSA. The southwestern portion of the unit, involving approximately 1,500 acres, is within the Silver Bell Mining District. The area contains potentially large deposits of copper with or without molybdenum, manganese and peripheral lead and zinc. Other precious metals in the area include gold and silver. The Asarco Mine, a large producer of copper in the area, lies south of the WSA in the Silver Bell Mountains. Currently all mining operations of the Asarco Mine have ceased because of an economically depressed market for copper.

The WSA is within the overthrust belt, but potential for oil, gas and geothermal is low. Potential for of sodium and potassium, as well as geothermal resources, is also low.

Overall mineral potential for this WSA is classified as moderate. See Table 3-1 and Map 3-15.

RECREATIONAL USES

With its many opportunities, the unit offers outstanding recreational potential. Hiking, hunting, rock collecting and rock climbing are the major recreation uses in this WSA.

ORVs have direct access to the entire WSA from various cherrystems on all sides of the unit. Most of the ORV activity is restricted to the bajada.

Present overall visitor use within the WSA is approximately 1,400 VDY, 700 motorized and 700 nonmotorized.

WILDLIFE USES

This WSA consists of a paloverde-saguaro vegetative community (Sonoran Upland). It contains 3,500 acres of crucial habitat for desert tortoise (a candidate for listing as a federal threatened and endangered species) and 2,820 acres of crucial habitat for desert bighorn sheep (a state threatened species). Most of the crucial bighorn sheep habitat is restricted to steep portions of the WSA and the lower valley connecting Ragged Top to the Silver Bell Mountains on the west side of the unit. Quantitative data on the density, age structure and sex ratios of tortoise populations is lacking. Tortoise are usually most abundant in areas where large boulders and rock substrata are predominant (Silver Bell-Baboquivari HMP). The entire WSA is considered desert tortoise habitat. See Map 3-16 for crucial habitats.

Approximately 20 to 35 resident bighorn sheep roam the WSA. Gila monster, also a state-listed threatened species, live throughout most of the unit. Other species of special interest include mule deer, javelina, coyote, quail, raptors and various rodents.

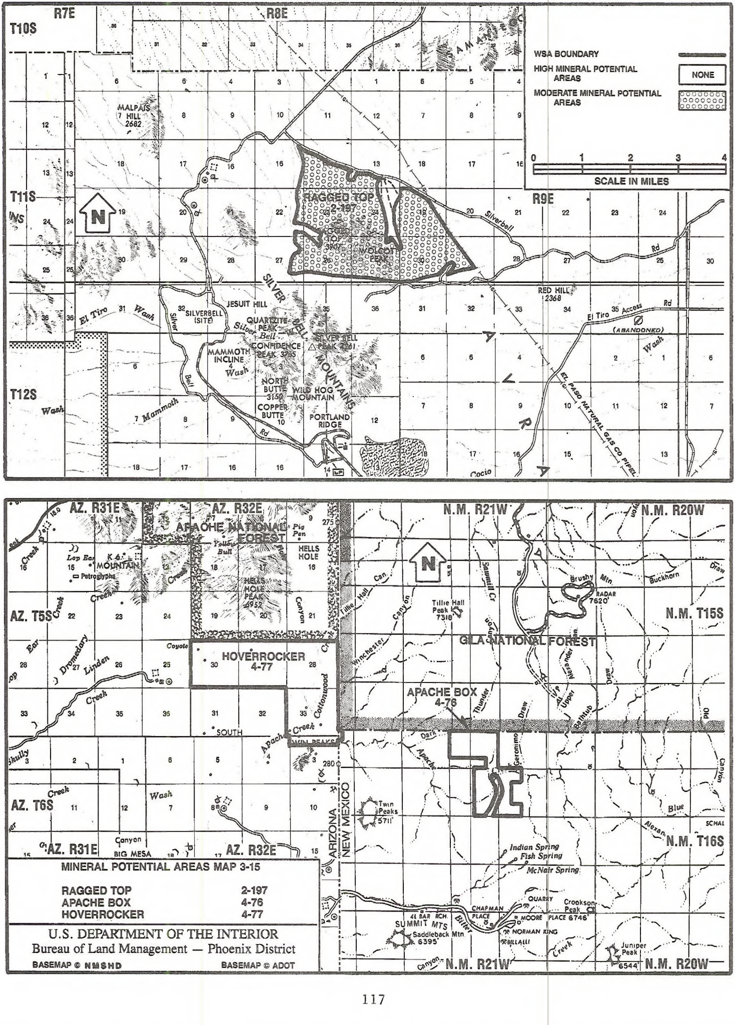
The unit is also within an extensively studied area of the Sonoran Desert. Scientists from the University of Arizona and the International Biological Program (IBP) study the climate, geology, plants, soils, vertebrates and invertebrates of this area. They compare the results with similar studies in other desert regions of the world.

CULTURAL RESOURCES

Inadequate information exists on this WSA, since less than one acre has been surveyed for cultural resources. It must be considered, however, that the vegetation and topography make the chances very likely that at least one cultural site of *National Register* quality exists within this WSA.

PROTECTED PLANTS

No federally listed threatened or endangered (T&E) plants have been found in this WSA. However, the lower

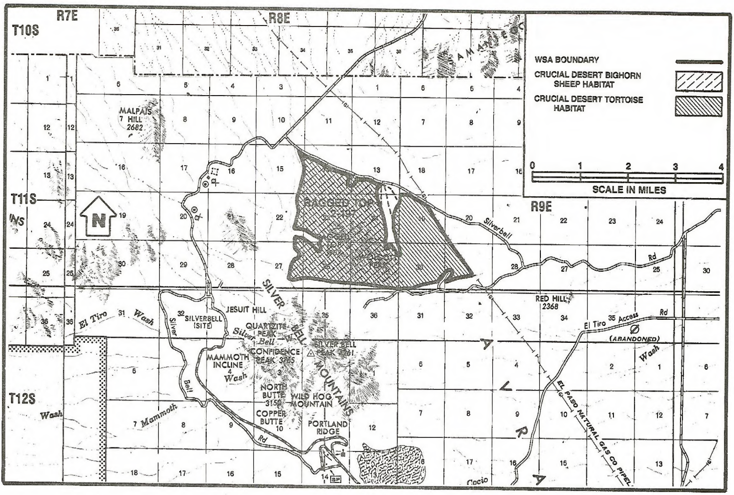


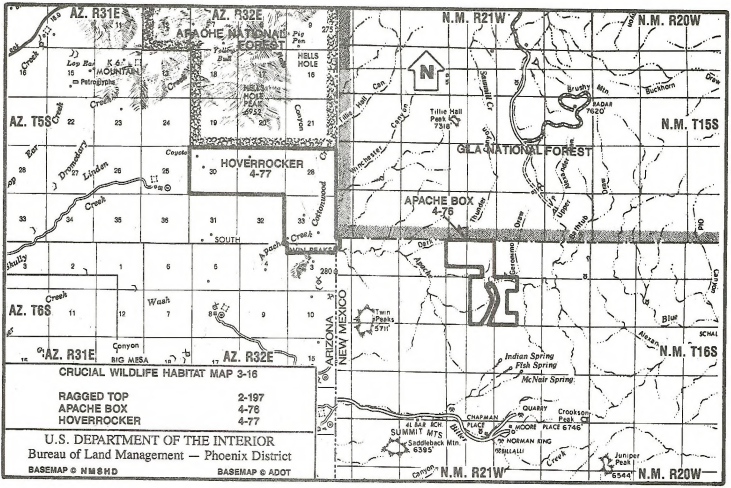
MINERAL POTENTIAL AREAS MAP 3-15

RAGGED TOP	2-197
APACHE BOX	4-76
HOVERROCKER	4-77

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © NMSHD BASEMAP © ADOT





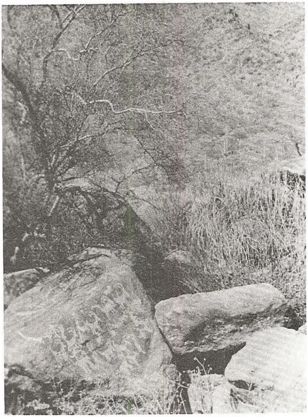
CRUCIAL WILDLIFE HABITAT MAP 3-16

RAGGED TOP	**2-197**
APACHE BOX	**4-76**
HOVERROCKER	**4-77**

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management — Phoenix District

BASEMAP © NMSHD BASEMAP © ADOT

portions of Ragged Top and the surrounding bajada are potential habitat for Tumamac globeberry *(Tumamoca macdougalii)* and fishhook cactus *(Mammilaria thornberi)*. Tumamac globeberry is federally listed as an endangered species and fishhook cactus is proposed for listing as a threatened species under the *Endangered Species Act of 1973*.



Bighorn sheep petroglyphs — Sierra Estrella WSA.

APACHE BOX WSA

(AZ-040-76) 932 acres

WILDERNESS VALUES

Location and Boundaries. The WSA lies in the southwestern New Mexico, about 45 miles east of Safford, Arizona and is bounded on the north by Forest Service and New Mexico State land, with private land forming the east, south and west boundaries. The WSA's northern boundary is contiguous for one mile with the Hell Hole WSA on the Gila National Forest and the area is not recommended for wilderness designation.

Naturalness. The WSA's 932 acres are generally in natural condition. Human imprints include two masonry dams, one earthern dam, a windmill, .5 mile of fence, an old mining operation and one mile of cherrystem road leading to the site of recent mineral exploration work. The range facilities are all in the northern part of the WSA, are largely unnoticeable and do not impair naturalness. The road has a visible impact on naturalness in the southern part of the WSA. The recent mining exploration work was partially rehabilitated and the visual impacts lessened, though they still impact the naturalness in the central part of the WSA.

The landscape of the WSA features the Apache Box, a unique canyon of steep walls, 600-foot-high cliffs, steep talus slopes and table lands above the canyon itself. WSA elevation ranges from 4,150 feet to 6,540 feet.

Vegetation varies from desert shrubs and grasses to mountain shrubs and some pinyon-juniper forest. Riparian species line the creek through the Apache Box. The table lands above the canyon also have a few ponderosa pines.

Solitude. Outstanding opportunities for solitude exist within the WSA. The deep canyon of the Apache Box and the surrounding rugged terrain offer outstanding opportunities to find seclusion from others.

Primitive and Unconfined Recreation. Opportunities for primitive and unconfined types of recreation are available, including hiking, hunting, photography, rock climbing, birdwatching and sightseeing.

Special Features. Special features within the WSA include the perennial Apache Creek, the associated riparian vegetation and the extremely scenic area of the Apache Box itself.

MINERALS AND ENERGY RESOURCES

As of November 1986 there were 93 mining claims within this WSA. Fluorspar, gold, silver and manganese (all strategic minerals) have been produced from mines in similar geological structures near the WSA. Though no records are known, gold has reportedly been shipped from the WSA. The potential for mineral occurrence in the WSA is moderate (See Table 3-1 and Map 3-15).

No leases are in effect and the potential is low to zero for oil and gas. No geothermal resources have been identified.

RECREATION USES

Recreation use of Apache Box WSA is very low with an estimated 25 VDYs of hunting (motorized) and 25 VDYs of sightseeing (nonmotorized).

CULTURAL RESOURCES

A Mogollon rock shelter and a historic house mound, road and sheep pen have been recorded in the WSA.

Neither site appears to qualify for listing on the *National Rigister* of Historic Places.

Only a limited amount of archaeological inventory has been done in the WSA. Based on the environmental setting and history of the area, the potential is good for other prehistoric and historic sites to be present. Some of these may be of *National Register* quality.

HOVERROCKER WSA

(AZ-040-77) 2,791 acres

WILDERNESS VALUES

Location and Boundaries. The Hoverrocker WSA lies in southeastern Arizona with a small portion (22 acres) in New Mexico. It is about 40 miles east of Safford, Arizona. The WSA is bounded on the north and east by Forest Service land and on the south and west by private and Arizona State land. The WSA's eastern boundary is contiguous for two miles with the Hell Hole WSA on the Gila National Forest (the WSA is not recommended for wilderness designation).

Naturalness. The WSA's 2,791 acres are generally in natural condition. Human imprints include a masonry dam, two developed springs, three corrals and six miles of boundary fences. The impact to naturalness from these facilities is minimal.

The landscape is dominated by rolling hills, with rugged mountains outside the WSA to the north and east. The southern part of the WSA contains a short stretch of Apache Creek, with a shallow but rocky canyon. Cottonwood Creek is another shallow drainage in the eastern part of the WSA. Elevation ranges from 4,600 feet to 5,280 feet.

Vegetation is dominated by desert shrubs and grasses. Increases in elevation bring about increasing numbers of pinyon and juniper trees. Riparian species are found on both Apache and Cottonwood Creeks.

Solitude. The rolling terrain, numerous drainages and vegetation combine offer outstanding opportunities for solitude.

Primitive and Unconfined Recreation. Opportunities exist for a wide variety of primitive recreation—backpacking, hiking, horseback riding, hunting, birdwatching, photography and sightseeing.

Special Features. The riparian vegetation in Apache and Cottonwood Creeks is a special feature in the WSA.

MINERALS AND ENERGY RESOURCES

As of November 1986, there were six active mining claims in this WSA. There are no records of mineral production from this WSA. Fluorspar, gold, silver and manganese (all strategic minerals) have been produced from mines in similar geological structures near the WSA. The potential for mineral occurrence in the WSA is moderate (See Table 3-1 and Map 3-15).

No leasable minerals have been identified in this WSA. One lease (for 144 acres) is in effect and the potential is low to zero for oil and gas. No geothermal resources have been identified.

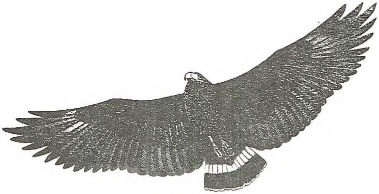
RECREATION USES

Current recreation use of Hoverrocker WSA is low. The primary recreation use is hunting with 25 VDYs.

CULTURAL RESOURCES

Four prehistoric and two historic sites have been recorded in the WSA. Three of the prehistoric sites are lithic scatters and one is a food processing site. One of the historic sites is a homestead, the other is an old cattle ranching line shack and corral. The prehistoric processing site may qualify for listing on the *National Register of Historic Places*.

Only a limited amount of archaeological inventory has been done in the WSA. Based on the environmental setting and history of the area, the potential is good for other prehistoric and historic sites to be present. Some of these may be of *National Register* quality.



Chapter 4

ENVIRONMENTAL CONSEQUENCES

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

INTRODUCTION

Chapter 4 analyzes the environmental consequences of each alternative for each WSA. The analyses will be commensurate with the degree of expected impact. BLM determined that no measurable impacts would result to livestock operations, wild burros, air quality, water quality, nonfederal lands, soils, social elements, military overflights and fire management. These components are, therefore, not discussed in this chapter (see Chapter 1 — Issues Considered But Not Analyzed). Protected plants were considered an issue in Chapter 1 and carried through the impact analysis. The conclusion drawn after the analysis was that this resources would neither be beneficially nor adversely impacted by the management actions described in Chapter 2.

BASIC ASSUMPTIONS

To provide a standard framework for impact analysis and comparison among the alternatives, the following assumptions were used.

1. Short-term impacts are considered to be those which would occur over a five-year period after designation, while long-term impacts are those occurring more than five years after designation. Unless otherwise stated all impacts are considered long-term.

2. BLM would have the funding and work force to implement the chosen alternatives.

3. Section 603 WSAs would be managed under BLM's *Interim Management Policy* (IMP) until either designated as wilderness or released by Congress. Section 202 WSAs not recommended for wilderness would be released by the State Director upon release of the FEIS.

4. If an area is designated as wilderness, the *Wilderness Management Policy* and related wilderness management regulations would be used as guides for permissible activities until a wilderness management plan is prepared for a designated area. The WSA-specific wilderness management plan would identify management actions that would be authorized within each designated area.

5. BLM would provide adequate access to nonfederal mineral or privately owned lands within a designated wilderness area.

6. Periodic maintenance of Black Mesa Pipeline Company's coal slurry pipeline (A-438) and the Oatman Water pipeline within the Mount Nutt WSA would continue regardless of wilderness designation. Approximately 1.2 miles of road would be built across section 32, T. 25 N., R. 18 W., to reach private inholdings in section 33 within the Mount Tipton WSA, regardless of wilderness designation.

7. Mines developed on federal mineral estates within designated wilderness areas would have to be on claims that have proven discoveries prior to wilderness designation.

8. Effective on the date of designation (October, 1991), any area designated as wilderness would be withdrawn from mineral leasing and mining claim staking under the mining laws and mineral sales. This provision is subject to valid existing rights.

9. New or upgraded roads developed for access to exploration programs and mineral developments in WSAs or partial areas not designated wilderness would remain open to motorized use. Use may be restricted if such access would endanger or materially interfere with the mining operation.

10. Range facilities would be maintained where needed to facilitate grazing and multiple-use management. New rangeland developments that benefit multiple use management may be allowed when site-specific environmental assessments show that wilderness resources would not be impaired. The minimum tool requirement for both maintenance and development could cause some increased costs both for the operator and BLM.

11. Livestock grazing would be maintained at present levels unless adjusted for reasons prescribed to achieve the multiple-use resource objectives for the rangeland.

12. The livestock operator would experience some minor increased commitment of labor and costs associated with using horses instead of motorized vehicles to place salt within designated wilderness areas, check on livestock and range improvements, and complete some maintenance or developments. Prohibitions against the use of motorized vehicles would also affect BLM's administration within wilderness areas.

13. Traditional forms of wildlife habitat improvement projects would continue to be installed in designated areas if, through an environmental assessment, it is determined that the projects comply with the intent of wilderness legislation.

14. Mining activity and rights-of-way construction would impair a visitor's perception of naturalness on a larger area than is actually disturbed. This larger area is generally the total area within viewing distance of the particular impairing activity. Thus a two-acre mine might be viewed from the surrounding hills, thereby impairing a visitor's perception of naturalness across a much larger area.

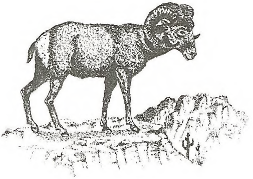
15. Impacts to wilderness values are dependent upon (1) the size of the WSA, (2) the topography of the area where the impact occurs, (3) the location of the impact in the WSA and (4) the magnitude, duration and frequency of the impact.

16. The BLM is directed to avoid inadvertent loss or destruction of cultural resources. Cultural resource inventories, evaluation, impact analyses and mitigation measures are required on public lands prior to any surface-disturbing activities (NEPA, FLPMA, and Section 106 of the *National Historic Preservation Act).* These requirements would not be constrained by any of the wilderness alternatives under consideration.

No sites that are potentially eligible for the *National Register of Historic Places* are known to exist in the Van Deeman, Mockingbird, Black Mountains North, Burns Spring, Grand Wash Cliff, Mount Davis, South Bradshaws East, Ragged Top, Apache Box or Hoverrocker WSAs. The lack of known significant sites in these areas is almost certainly a result of the low level of inventory that has been completed within these WSAs. This is also true for those WSAs which contain previously inventoried sites. Similar environments nearby do have significant cultural resources. These sites are usually historic mining and/or ranching remains and prehistoric camps, rock shelters and rock art sites. In addition to the protection afforded these sites under the above mentioned policies, laws and regulations, further protection for these cultural resources in each WSA would be provided by wilderness designation. Conversely, continued and increased adverse impacts to cultural resources from surface-disturbing activities such as mining, ORV use and vandalism are more probable without wilderness designation.

17. The BLM is required by the *American Indian Religious Freedom Act* (AIRFA) to consider the views of Native Americans prior to authorizing or carrying out any action which might conflict with traditional Indian religious beliefs or practices.

18. Impacts to sensitive plant (Table 3-4) and animal species (Table 3-2) under wilderness designation or nondesignation cannot be assessed in this DEIS, because locations of critical habitat and populations are not known at this time. Site-specific impacts to these species from projects that are proposed in the WSAs would be passed on a case-by-case basis through an EA or EIS process, and mitigating measures would be developed in these processes to avoid or minimize harm.



19. Those WSAs that are described as being dependent on adjacent wilderness or potential wilderness areas for their solitude, primitive recreation or naturalness features are discussed in this chapter as though the nearby areas were already designated as wilderness.

20. There are extensive private mineral estate holdings in six WSAs. Access to and development of mineral resources on these lands would be allowed under all alternatives.

VAN DEEMAN WSA

(AZ-020-07) — 1,510 acres

Proposed Action/No Wilderness Alternative (Map 2-1)

The *Proposed Action/No Wilderness* alternative would return 1,510 acres to other resource uses.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

None of the Van Deeman WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in the entire area would experience adverse impacts from motorized vehicle use, seven mining exploration programs and five anticipated mining ventures.

Mining exploration programs would result in the development of five mining operations and their associated five miles of road construction which would impair the natural character of the entire 1,510 acres. (Presently, this area has some evidence of mining and is reached by unmaintained and barely discernible vehicle trails). The wilderness qualities of opportunities for solitude and primitive creation would also be lost over the entire 1,510 acres.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by mining. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and vastly improved vehicular access are the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would be eliminated throughout the area—a result of road building and mining. The impact of these losses is lessened by the availability of similar opportunities in adjacent areas.

The sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 100 percent of the WSA. Improved mine road access on five miles of new road would permit vehicles to traverse or reach portions of the WSA never visited by vehicle-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use, mining, and road construction would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 100 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, the 1,510 acres of federal mineral estate would remain open to mineral entry under the mining laws. Five mines would be developed in the WSA.

Conclusion: The *No Wilderness* alternative would allow mineral entry onto all of the federal minerals in the area and the exploration resulting in the development of five mines.

IMPACTS ON RECREATION USE

Under the *No Wilderness* alternative, proposed mineral development would occupy virtually the entire Van Deeman WSA which would eventually eliminate all existing recreational uses. Projected recreational use of 50 VDY would be displaced to nearby areas of public land offering comparable opportunities.

Conclusion: The *No Wilderness* alternative would displace all projected recreation use (50 VDY) to nearby public lands.

IMPACTS ON WILDLIFE VALUES

Under the *Proposed Action* 1,510 acres (100 percent of WSA) of crucial bighorn sheep habitat would be destroyed by the five projected open pit mines. These mines would prevent the use of this area by bighorn sheep. Van Deeman Tank in Section 30, would be abandoned as a sheep water as the sheep would not use the site due to mining disturbances.

It is expected that the desert tortoise and the Gila monster would be totally eliminated from this area because of collecting, killing and direct habitual destruction.

Under the *Proposed Action* motorized vehicle travel is expected to negatively affect those animals sensitive to human intrusion. Bighorn sheep will avoid heavily used vehicle ways. Wildlife contacts with humans increase when motorized vehicles are used, thus increasing the probability of disturbance to wildlife through collecting, direct killing and habitat destruction.

Conclusion: 1,510 acres (100 percent of WSA) of crucial bighorn sheep habitat and 1,510 acres of desert tortoise and Gila monster suitable habitat would be totally destroyed by mineral development, resulting in the loss of two desert bighorn. The desert tortoise and Gila monster would be totally eliminated from the WSA.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide additional protection for a prehistoric rock shelter and historical mine that are probably present. Vehicle travel, future mining activity and new road construction would increase negative impacts to these sites.

Conclusion: A prehistoric rock shelter and historical mine that probably exist would not be better protected.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values of naturalness, solitude and primitive recreation over the entire WSA would be impaired by mineral development and motorized vehicle use.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of five mines would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 1,510 acres developed for minerals.

All Wilderness Alternative (Map 2-1)

The *All Wilderness* alternative would designate 1,510 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Van Deeman WSA would provide long-term legislative protection for its wilderness values. Although the area would be under wilderness management, two mines (on mining claims that had proven discoveries) would be developed within the wilderness in a manner that would affect wilderness values.

Precluding the development of three medium mines would maintain the existing wilderness value of naturalness on 600 acres. Moreover, the perception of naturalness would be preserved and the quality and solitude and primitive recreation opportunities sustained across those 600 acres.

Eliminating all motorized recreation use on 1,510 acres would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users in the 25 percent of the WSA presently affected by motorized use.

Because of valid existing rights, development of two mines is anticipated whether the area is designated wilderness or not. Mining and three miles of road construction would result in long-term loss of naturalness on 905 acres. The sights and sounds of mining and traffic would be visible and audible from surrounding area; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired throughout the entire 1,510 acres.

Conclusion: Wilderness designation under the *All Wilderness* alternative would not maintain any of the wilderness values of naturalness, solitude and primitive recreation across any part of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *All Wilderness*, 1,510 acres of federal mineral estate would be withdrawn from mineral entry and would stop any future exploration activities, but would have no effect on the development of two open-pit mines in the WSA, due to the advanced nature of the exploration program.

Conclusion: The *All Wilderness* would stop future exploration projects, but would not affect the development of two open-pit mines within the designated area.

IMPACTS ON RECREATION USE

Under the *All Wilderness* alternative, proposed mineral development would affect virtually the entire Van Deeman WSA, which would eventually eliminate all existing recreational uses. Projected recreational use (all nonmotorized) of 30 VDY would be displaced to nearby areas of public land offering comparable opportunities.

Conclusion: The *All Wilderness* alternative would displace all 30 VDY of projected recreation use (all nonmotorized) to nearby public lands.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 605 acres (40.0 percent) of crucial bighorn habitat, desert tortoise and Gila monster habitat in the WSA from further significant surface-disturbing activities such as mineral exploration and ORV use. Because of valid existing mining rights, mine development and the subsequent increase in human activity would destroy 905 acres (59.9 percent) of bighorn crucial habitat and desert tortoise and Gila monster suitable habitat within the WSA.

Despite the protection under *All Wilderness* these open pit mines are expected to eliminate bighorn from the WSA because of the increased contacts with humans and the large size of the habitat disturbance. Also, the bighorn water, Van Deeman Tank in Section 30, would be destroyed and therefore the area would become unwatered. The loss of two bighorn is anticipated.

The increase in motorized vehicle travel would also adversely impact those animals sensitive to human intrusion. As motorized use increases from access to the two mines, there would be more contact between humans and bighorn sheep resulting in disturbance to wildlife through collecting, direct killing and habitat destruction.

Conclusion: The *All Wilderness* alternative would protect 605 acres of crucial bighorn habitat, desert tortoise and Gila monster suitable habitat from further significant surface-disturbing activities. Because of valid existing mining rights, 905 acres of crucial bighorn habitat, and desert tortoise and Gila monster habitat would be destroyed. It is anticipated that bighorn would stop using the WSA and that mineral development would result in the loss of two bighorn. Van Deeman Tank would be destroyed as a bighorn water.

IMPACTS ON CULTURAL RESOURCES

Although most of this WSA is probably going to have future mining operations, some restrictions would protect a probable rock shelter and historical mine. General vehicle and ORV use would be prohibited.

Conclusion: A prehistoric rock shelter and historical mine that probably exist in this WSA would be better protected.

No other resources would be impacted by this alternative.

MOCKINGBIRD WSA
(AZ-020-08) — 5,815 acres

Proposed Action/No Wilderness Alternative (Map 2-1)

The *Proposed Action/No Wilderness* alternative would return 5,815 acres to other resource uses.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

None of the Mockingbird WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long-term, wilderness values in the entire area would experience adverse impacts from motorized vehicle use, five mining exploration programs, two anticipated mining ventures, and the construction of an apron water catchment.

Mining exploration programs would result in two mining operations which would, along with the associated seven miles of road construction, impair the natural character of the entire 910 acres. (Presently, some of these areas have moderate evidence of mining and are reached by unmaintained and barely discernible vehicle trails). Visitors' perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 3,000 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Construction of an apron water catchment would directly disturb the naturalness and solitude on 1/4 acre and the visitor's perception of those wilderness qualities over the 50 acres in which it would be visible.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by mining. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and vastly improved vehicular access are the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline in the northwest and southeast portions—a result of road building and mining. The impact of these lost opportunities is lessened by the availability of similar opportunities in adjacent areas.

Because 5,815 acres and seven miles of mine roads would be open, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 50 percent of the WSA. Improved mine road access on seven miles of new road would permit vehicles to traverse or reach portions of the WSA never before visited by vehicle-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, and road construction would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 52 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, the 5,815 acres of federal mineral estate would remain open to mineral entry under the mining laws and would result in the development of one large and one medium sized open-pit mine in the described area.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of one large and one medium open-pit mines.

IMPACTS ON RECREATION USE

Under the *No Wilderness* alternative, proposed mineral development would be scattered throughout and occupy much of the Mockingbird WSA. Disturbing the naturalness, scenic values and solitude over such a broad portion of the area would eliminate most opportunities for such nonmotorized recreational pursuits as day hiking and birdwatching. Projected nonmotorized recreational use of ten VDY would be displaced to nearby areas of public land offering much higher quality opportunities. Motorized uses such as recreational four-wheeling would generally benefit as a result of access road construction brought about by wide-spread mineral development. Projected motorized recreational use of 80 VDY would not be displaced as a result of the projected level of long-term mineral development.

Conclusion: Under the *No Wilderness* alternative, ten VDY of nonmotorized recreational use would be displaced because of mineral development.

IMPACTS ON WILDLIFE VALUES

Under the *Proposed Action/No Wilderness* 300 acres or 5.2 percent of crucial desert bighorn habitat in the WSA would be destroyed. The presence of the one large projected open pit mine with associated human activities would prevent bighorn from utilizing 20 percent of the WSA. Approximately 300 acres (5.2 percent of WSA) of desert tortoise and Gila monster suitable habitat would be destroyed. These two species would be eliminated in the mine areas. They would be reduced or eliminated within 1/4 to 1/2 mile of the roads and mines because of harassment, collecting or killing.

Recreational motorized vehicle travel would continue to adversely affect bighorn sheep and other animals sensitive to human intrusion. Bighorn sheep are expected to avoid heavily used vehicle ways which would displace them to less suitable areas. Wildlife contacts with humans would increase, resulting in disturbance to wildlife through collecting, direct killing and habitat destruction.

Conclusion: Approximately 300 acres of crucial bighorn habitat and 300 acres of suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.

IMPACTS TO CULTURAL RESOURCES

This alternative would not provide additional protection for two prehistoric rock shelters and two historical mines that are probably present. Vehicle travel, future mining activity and new road construction would increase negative impacts to these sites.

Conclusion: Two prehistoric rock shelters and two historical mines that probably exist would not be better protected.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development and motorized vehicle use.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of two mines would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 910 acres developed for minerals and road access.

All Wilderness Alternative (Map 2-1)

The *All Wilderness* alternative would designate 5,815 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Mockingbird WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because anticipated road construction and motorized vehicle use would be excluded. However, under wilderness management five mines (on mining claims that had proven discoveries) would be developed within the wilderness in a manner affecting wilderness values.

Eliminating all motorized recreation use on 5,815 acres would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users in the 25 percent of the WSA presently affected by motorized use.

The natural character of 1/4 acre and the perception of naturalness on 50 acres would be impaired by the development of an apron water catchment. Installed under strict wilderness management constraints, however, the facilities would blend in with their surroundings and be noticeable only upon direct encounter instead of on the 50 acres surrounding the waters. There would be some brief losses during construction and periodic maintenance.

Because of valid existing rights, development of five mines is anticipated whether the area is designated wilderness or not. Mining and four miles of road construction would result in long-term loss of naturalness on 923.5 acres. The sights and sounds of mining and traffic would be visible and audible from surrounding area; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired over the entire 5,815 acres.

Conclusion: Wilderness designation under the *All Wilderness* alternative would not maintain the wilderness values of naturalness, solitude and primitive recreation across any of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *All Wilderness*, 5,815 acres of federal mineral estate would be withdrawn from future mineral entry, which would preclude future exploration projects.

Conclusion: The *All Wilderness* would preclude future exploration projects.

IMPACTS ON RECREATION USE

Under the *All Wilderness* alternative, proposed mineral development would occupy much of the Mockingbird WSA. These developments would be scattered throughout the WSA. Elimination of the naturalness, scenic values and solitude over several portions of the area would eliminate many opportunities for such nonmotorized recreational pursuits as day hiking and birdwatching. Projected nonmotorized recreational use of 30 VDY would largely be displaced to nearby areas of public land offering much higher quality opportunities for such use.

Conclusion: Under the *All Wilderness* alternative much of the projected 30 VDY of nonmotorized recreational use would be displaced because of mineral development.

IMPACTS ON WILDLIFE VALUES

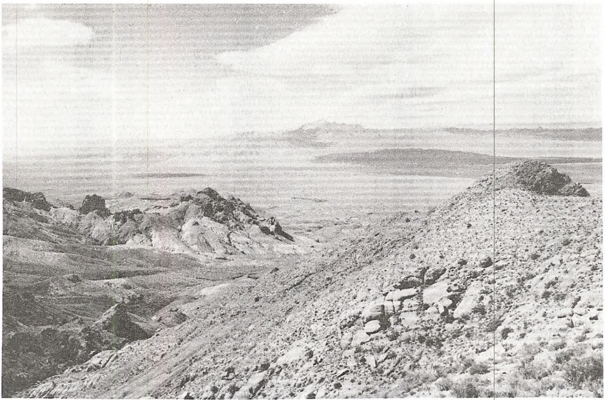
The *All Wilderness* alternative would protect 4,892 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 3,376 acres (84.4 percent) of crucial bighorn habitat and 5,076 acres (89.9 percent) of suitable habitat for the desert tortoise and Gila monster.

Mine development and the subsequent increase in human activity would destroy 624 acres (15.6 percent) of bighorn crucial habitat. The loss of one desert bighorn is anticipated.

The four miles of new roads for mine access along with the mines would directly destroy 624 acres (10.9 percent) of desert tortoise and Gila monster suitable habitat. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often result in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease significantly because recreational travel would be restricted to foot travel. Therefore, human contacts that disturb wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 3,376 acres of crucial bighorn habitat and 4,892 acres of desert tortoise and Gila monster suitable habitat from further significant surface-disturbing activities. Mineral development would adversely impact 624 acres of crucial



The Black Mountain ridgeline affords views of Lake Mohave, the Colorado River and the Newberry Mountains in Nevada — Black Mountains North WSA.

bighorn habitat, desert tortoise and Gila monster habitat. The loss of one bighorn is anticipated.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide additional protection for two prehistoric rock shelters and two historical mines. Vehicle travel, future mining activity and new road construction would be limited or prohibited.

Conclusion: Additional protection would be provided for two prehistoric rock shelters and two historical mines that are probably present in this WSA.

No other resources would be impacted by this alternative.

BLACK MOUNTAINS NORTH

(AZ-02-09) 19,900 acres

Proposed Action/Partial Wilderness

(Map 2-2)

The *Proposed Action/Partial Wilderness* for the Black Mountains North WSA would designate 18,400 acres as wilderness and return 1,500 acres to other multiple use management uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would (1) allow for anticipated expansion of the Portland Mine, (2) exclude an area of high mineral potential including an anticipated open-pit mine in the southern portion of the WSA and (3) allow a vehicle way in Lost Cabin Wash to remain open, providing access to Lake Mohave.

Under this alternative the following environmental consequences are anticipated.

Area proposed for wilderness designation

IMPACTS ON WILDERNESS VALUES

The *Proposed Action/Partial Wilderness* alternative would provide long-term legislative protection to wilderness values on 18,400 acres of the WSA. Wilderness values would benefit in certain areas because motorized vehicle use would be excluded. Three mines, on mining claims with valid existing rights, would be developed within the wilderness in a manner affecting wilderness values—however this use would occur in any event.

Three mining operations on claims with valid existing rights would cause extensive and long-term surface disturbances that would impair the natural character of 205 acres. Visitors' perception of naturalness would also be lost or impaired over an area of 1,000 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Construction of the pothole water developments would directly disturb the naturalness and solitude on 1/4 acre. Design criteria would be such that no disturbance to the visitor's perception of the wilderness qualities of naturalness, solitude and primitive recreation would occur outside this 1/4-acre area.

Eliminating all motorized recreation use on 18,400 acres of wilderness would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users on the 2,000 acres of the designated portion of the WSA presently subject to the sights and sounds of motorized vehicles. All washes and trails would be available for only foot and horseback travel.

Opportunities for solitude and primitive recreation that would be preserved by wilderness designation include skill-testing cross-country treks, excellent horseback possibilities, wildlife observation and photography, and general sightseeing.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 95 percent of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from mining developments and motorized vehicle use.

IMPACTS ON MINERALS DEVELOPMENT

Under the *Proposed Action/Partial Wilderness* 18,400 acres would be withdrawn from future mineral entry, which would deny the exploration projects, but would have no effect on the development of the deposits already discovered in the WSA.

In spite of the wilderness designation, valid existing rights would allow the development of four open-pit and one underground mine within the designated area.

Conclusion: The *Proposed Action/Partial Wilderness* would deny the exploration projects, but would not impede the development of four open-pit mines and one underground mine.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 18,400 acres by closing this acreage to motorized use and displacing 100 VDY of motorized recreation use to nearby public lands. Nonmotorized recreation activities that would benefit from these actions include horseback riding, day hiking, sightseeing, overnight backpacking, wildlife observation and photography.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 19,300 acres by displacing 100 VDY of motorized recreation use to nearby public lands.

IMPACTS ON WILDLIFE VALUES

The *Proposed Action/Partial Wilderness* would protect 18,195 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. The area protected includes (1) 12,935 acres of crucial bighorn habitat, (2) all but 300 acres of the 5,190-acre Lost Cabin bighorn sheep lambing grounds, (3) 8,435 acres (86 percent) of suitable peregrine falcon habitat and (4) 18,195 acres (91.8 percent of WSA or 98.8 percent of the proposed area) of suitable habitat for the desert tortoise and the Gila Monster.

Because of valid existing mining rights, mine development, eight miles of new roads and the subsequent increase in human activity would destroy (1) 285 acres (1.4 percent of WSA, 1.5 percent of proposed) of bighorn crucial habitat, (2) 205 acres (2.3 percent) of peregrine falcon suitable habitat and (3) 205 acres (91.4 percent of WSA or 98.8 percent of alternative) of desert tortoise and Gila monster suitable habitat. Any of these species adjacent to mine access roads and mines would be adversely affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites. The loss of four desert bighorn is anticipated.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease significantly because recreational travel would be restricted to foot travel. Therefore, recreation related human contacts resulting in disturbances to wildlife would be minimal, which contrasts sharply with the increased human-caused disturbances related to mining.

Conclusion: The *Proposed Action/Partial Wilderness* would protect 12,935 acres of crucial bighorn habitat (includes 4,890 acres of lambing grounds), 8,435 acres of suitable peregrine habitat and 18,195 acres suitable desert tortoise and Gila monster habitat from further significant damage.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide the additional protection of wilderness status. Vehicle travel, future mining activity and new road construction would be prohibited or limited. This alternative would reduce negative impacts to two prehistoric campsites, a prehistoric rock shelter and an historical mine that are probably present in this WSA.

Conclusion: Two prehistoric campsites, a prehistoric rock shelter and an historical mine that are probably present would be better protected.

Area recommended for uses other than wilderness designation.

IMPACTS ON WILDERNESS VALUES

Wilderness values on the 1,500-acre portion of the WSA returned to other resource uses would not receive the legislative protection provided by wilderness designation. Over the long term, wilderness values would experience adverse impacts from motorized vehicle use and expansion of one open-pit mine into the area.

Expansion of the Portland Mine would impair the natural character of 200 acres (area with extensive long-term surface disturbance) and one open-pit mine would disturb 300 acres. Visitors' perception of naturalness would be lost or impaired over the entire 1,500 acres of the surrounding lands where visitors would be directly subject to the sights of the mines.

Solitude and primitive recreation opportunities would also deteriorate in the area because motorized vehicle traffic would continue. The sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities over the entire area.

Conclusion: Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use and expansion of an open-pit mine would impair wilderness values on the entire 1,500 acres (8 percent of the entire WSA or 100 percent of the area returned to other resource uses).

IMPACTS ON MINERAL DEVELOPMENT

The *Proposed Action/Partial Wilderness* alternative would allow mineral entry on 1,500 acres of public land. As a result, there would be exploration programs and no mining developments would be denied.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would allow exploration and the development of any potential mines within the 1,500 acres of public land open to mineral development.

IMPACT ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation use on 1,500 acres of WSA, although motorized recreation use levels would increase slightly because of displacement from the wilderness portion of the area.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 1,500 acres of WSA.

IMPACTS ON WILDLIFE VALUES

A total of 300 acres (20 percent of area) of desert bighorn crucial habitat and 300 acres (20 percent of area) of peregrine falcon suitable habitat would be destroyed. A total of

500 acres (83.3 percent of area) of suitable desert tortoise and Gila monster habitat would be destroyed by mineral development. Any of these species adjacent to the mine and roads would be negatively affected because of increased contacts with humans which often results in harassment, collection or direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of the disturbed sites.

ORV use would increase, thus increasing disturbances to the above species.

Conclusion: A total of 300 acres of crucial bighorn habitat, 300 acres of suitable peregrine habitat and 500 acres of suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed over 25 percent of the area by mineral development, motorized vehicle use and water catchment construction.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of six mines and a water catchment would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 1,317 acres developed for minerals and road access.

All Wilderness Alternative (Map 2-3)

The *All Wilderness* alternative would designate 19,900 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Black Mountain North WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because motorized vehicle use and 312 acres of mining and access construction would be excluded. However, under wilderness management, five mines (on mining claims that had proven discoveries or on nonfederal minerals) would be developed within the wilderness in a manner affecting wilderness values.

Precluding 312 acres of mining disturbance would maintain the existing wilderness value of naturalness. Moreover, the perception of naturalness would be preserved and the quality and solitude and primitive recreation opportunities sustained across 5,900 acres.

Eliminating all motorized recreation use on the 2,000 acres presently accessible to motor vehicles would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users in the 30 percent of the WSA presently affected by motorized use.

Because of valid existing rights, development of five mines is anticipated whether the area is designated wilderness or not. Mining would result in long-term loss of naturalness on 705 acres. The sights and sounds of mining and traffic would be visible and audible from surrounding area; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired on 2,500 acres.

Construction of the pothole water developments would directly disturb the naturalness and solitude on 1/4 acre. Design criteria would be such that no disturbance to the visitor's perception of the wilderness qualities of naturalness, solitude, and primitive recreation would occur outside this 1/4 acre area.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 89 percent of the WSA by precluding motorized vehicle recreation and some mining.

IMPACTS ON MINERALS DEVELOPMENT

Under the *All Wilderness*, 19,900 acres would be withdrawn from mineral entry under the mining laws, subject to valid existing rights. Wilderness designation would deny the exploration projects and would also cause mining companies to make major decisions on properties based on less than complete data.

Although future mineral exploration would be precluded, valid existing rights would allow the development of four open-pit mines and one underground mine within the designated area.

Conclusion: *All Wilderness* would deny the exploration projects, but would not stop the development of four open-pit mines and one underground mine. Also, there are 10,260 acres in private mineral estate that would remain open for mineral exploration and development.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation by closing 19,900 acres to vehicles and displacing 450 VDY of motorized use. Nonmotorized recreation activities (day hiking, backpacking, horseback riding and rockhounding) would benefit as a result.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation 19,900 acres and displace 450 VDY of motorized use.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect (1) 19,195 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use, (2) 13,695 acres (95.1 percent) of crucial bighorn habitat which includes all but 300 acres of the 5,190-acre Lost Cabin bighorn lambing grounds, (3) 7,935 acres (91.8 percent) of suitable peregrine falcon habitat and (4) 19,195 acres (96.4 percent) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would destroy 705 acres (4.9 percent) of bighorn crucial habitat and 705 acres (4.8 percent) of peregrine falcon suitable habitat. The new roads along with the mines would directly destroy 705 acres (3.5 percent) of suitable desert tortoise and Gila monster habitat in the WSA. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites. The loss of four desert bighorn is anticipated.

Although the visitor use days would increase, recreational impacts to wildlife would be expected to decrease significantly because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 13,695 acres of crucial bighorn habitat, 7,935 acres of suitable peregrine habitat, and 19,195 acres of suitable desert tortoise and Gila monster habitat from further significant surface-disturbing activities. Mineral development would adversely impact 705 acres of crucial bighorn habitat, 705 acres of suitable peregrine habitat, and 705 acres of suitable desert tortoise and Gila monster habitat. The loss of four bighorn sheep is anticipated.

IMPACTS ON CULTURAL RESOURCES

This alternative is essentially the same as the *Proposed Action/Partial Wilderness.*

No Wilderness Alternative (Map 2-3)

The *No Wilderness* alternative would return 19,900 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Black Mountains North's WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, mining exploration programs, four anticipated mining ventures and the construction of an apron water catchment.

Mining exploration programs would result in four mining operations and their associated eight miles of road construction which would impair the natural character of 1,212 acres. Visitor's perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 8,400 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Construction of the pothole water developments would directly disturb the naturalness and solitude on 1/4 acre. Design criteria would be such that no dilution of the visitor's perception of the wilderness qualities of naturalness, solitude, and primitive recreation would occur outside this 1/4 acre area.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by the mining and mining roads. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and vastly improved vehicular access would cause the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline in the eastern half of the unit—a result of road building and mining. However, similar opportunities are available elsewhere in the region to compensate for the loss of hiking and sightseeing opportunities in this unit.

Because the entire 19,900 acres would be open to ORV use, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 25 percent of the WSA. About 2,000 acres are presently used by ORV recreationists. Improved mine road access on eight miles of new road would permit vehicles to traverse or reach portions of the WSA infrequently or never driven to before. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction and water catchments would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 58 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, all Federal minerals would remain open to mineral entry under the mining laws, permitting extensive exploration and the development of four open-pit mines.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of four open-pit mines.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change opportunities for motorized and nonmotorized recreation activities in the Black Mountains North WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative, 19,900 acres would be returned to multiple use management under MFP decisions. Although this area would receive some protection from road construction, ORV use, mine development and mine exploration, these activities would degrade habitats of desert bighorn, peregrine falcon, desert tortoise and the Gila monster by increasing human activity and disturbance to wildlife. This often results in harassment, collection and direct killing. While quantification of populations is not possible, this disturbance would result in the decrease in numbers and ranges of desert bighorn (affecting 14,400 acres of crucial habitat, including 4,890 acres of the Lost Cabin lambing grounds), peregrine falcon (affecting 8,640 acres of suitable habitat) and the desert tortoise and Gila monster (affecting 19,900 acres of suitable habitat).

ORV use would increase and the use of motorized vehicles would have the same affects to wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 917 acres (63 percent) of crucial bighorn habitat, 1,212 acres (14 percent) of peregrine falcon suitable habitat and 1,212 acres (91 percent) of desert tortoise and Gila monster habitat in the WSA. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites. The loss of four desert bighorn is anticipated.

Conclusion: Under the *No Wilderness* alternative 14,400 acres of crucial bighorn habitat (includes 4,890 acres of lambing grounds), 8,640 acres of suitable peregrine falcon habitat, and 19,900 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction and mine exploration and development. Mine development would destroy 917 acres of crucial bighorn habitat, 1,212 acres of suitable peregrine habitat, and 1,212 acres of suitable desert tortoise and Gila monster habitat.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide the additional protection of wilderness status. Vehicle travel, future mining activity and new road construction would not be limited. This alternative would increase negative impacts to the cultural resources that are probably present.

Conclusion: Additional protection would not be provided for two prehistoric campsites, a prehistoric rock shelter and an historical mine that are probably present.

BURNS SPRING WSA

(AZ-020-10) — 30,600 Acres

Proposed Action/Partial Wilderness

(Map 2-2)

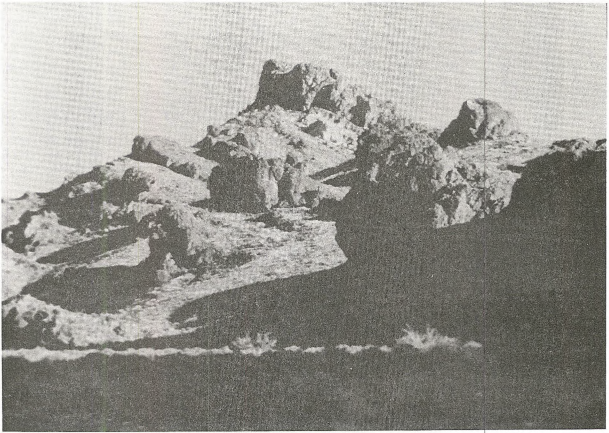
The *Proposed Action/Partial Wilderness* for the Burns Spring WSA would designate 23,000 acres as wilderness and 7,600 acres for other resource uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would (1) allow for the anticipated expansion of the Portland Mine and exclude an area of high mineral potential which includes an anticipated open-pit mine near the Portland Mine (Lost Cabin Wash area) of the WSA, (2) exclude three sections of the WSA on the north and east, which are surrounded on three sides by private land, thus unmanageable, and (3) allow continued vehicle use in Tyro Wash, access to Lake Mohave and the areas south of Tyro Wash which includes one anticipated open-pit mine.

Under this alternative the following environmental consequences are anticipated.

Area proposed for wilderness designation.

IMPACTS ON WILDERNESS VALUES

The *Proposed Action/Partial Wilderness* alternative would provide long-term legislative protection to wilderness values on 23,000 acres of the WSA. Wilderness values would benefit in certain areas because motorized vehicle use would be excluded. Two mines, one mining claim with valid existing rights and one on private minerals, would be developed within the wilderness in a manner affecting wilderness values—however, this would happen whether or not the area is designated.



Black Mountains Ridgeline — Burns Springs WSA.

Two mining operations would cause extensive and long-term surface disturbances that would impair the natural character of 600 acres. Visitors' perception of naturalness would also be lost or impaired over an area of 2,000 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Eliminating all motorized recreation use on 23,000 acres of wilderness would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users on the 3,500 acres of the designated portion of the WSA presently subject to the sights and sounds of motorized vehicles. All washes and trails would be available for only foot and horseback travel.

Maintenance of one livestock spring development and four wildlife water developments would require occasional use of motorized equipment. However, the temporary nature of these disturbances would not impair wilderness values of naturalness, solitude and primitive recreation. Development of two new pothole or dam wildlife water sources would impair the wilderness qualities of naturalness, solitude and primitive recreation on approximately 1/4 acre.

Opportunities for solitude and primitive recreation that would be preserved by wilderness designation include skill-testing cross-country treks, some good horseback riding possibilities, wildlife observation, photography, and sight-seeing for unique plant communities.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 87 percent of the designated portion of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from motorized vehicle use.

IMPACTS ON MINERALS DEVELOPMENT

Under the *Proposed Action/Partial Wilderness* alternative, future exploration would be precluded by wilderness designation and all future mining, without valid existing rights, would also be precluded.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would preclude future exploration projects in the designated area.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for nonmotorized recreation use on 23,000 acres, as no motorized use presently occurs on this acreage.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for nonmotorized use on 23,000 acres.

IMPACTS ON WILDLIFE VALUES

The *Proposed Action/Partial Wilderness* would protect 22,050 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 15,220 acres (100 percent designated area, or 89.7 percent WSA) of crucial bighorn habitat (includes one-half (412 acres) of the Burns Spring lambing ground); 17,780 acres (98 percent designated area, or 92.6 percent WSA) of suitable peregrine falcon habitat and 22,050 acres (95.9 percent designated area or 72 percent WSA) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would directly destroy 600 acres (2.7 percent designated area or two percent WSA) of suitable desert tortoise and Gila monster habitat. The loss of one desert bighorn sheep is anticipated. All of the above mentioned wildlife species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there will be an increase in visitor use days, recreational impacts to wildlife are expected to decrease significantly because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *Proposed Action/Partial Wilderness* would protect 15,220 acres of crucial bighorn habitat (includes 4,120 acres of lambing grounds), 17,780 acres of suitable peregrine falcon habitat, 22,050 acres of suitable desert tortoise and Gila monster habitat from further significant surface-disturbing activities.

Mineral development would adversely impact 600 acres of suitable Gila monster and desert tortoise habitat. The loss of one bighorn is anticipated.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide the additional protection of wilderness status. Vehicle travel, future mining and new road construction would be prohibited or limited. This alternative would reduce negative impacts to two prehistoric rock shelters, two historical mines and a prehistoric campsite that are probably present in this WSA.

Conclusion: Two prehistoric rock shelters, two historical mines and a prehistoric campsite that are probably present would be better protected.

Area recommended for uses other than wilderness

IMPACTS ON WILDERNESS VALUES

Wilderness values on the 7,600 acre portion of the WSA returned to other resource uses would not receive the legislative protection provided by wilderness designation. Over the long term, wilderness values would experience adverse impacts from motorized vehicle use and mineral development.

Three mining operations on claims with valid existing rights would cause extensive and long-term surface disturbance that would impair the natural character of 950 acres. Visitors' perception of naturalness would be lost or impaired over the large area of 2,200 acres—surrounding lands where visitors would be directly subject to the sight and sound of mining, construction, roads and traffic. The increase in vehicle traffic is a direct result of equipment, personnel, and ore transport related to mining.

Solitude and primitive recreation opportunities would also deteriorate around the 1000 acres subject to motorized vehicle traffic. The sights and sounds of motorized recreation use on these areas would lessen the quality of solitude and primitive recreation opportunities over a larger area of 2,500 acres.

Conclusion: Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use and mineral development would impair wilderness values on 62 percent of the undesignated portion of the WSA.

IMPACTS ON MINERAL DEVELOPMENT

The *Proposed Action/Partial Wilderness* alternative would allow mineral entry on 7,600 acres of public land. As a result, there would be exploration programs in the WSA and no mining developments would be denied in the area.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would allow exploration and the development of any potential mines within the 7,600 acres of public land open to mineral development.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation use on 7,600 acres of WSA.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not affect recreation use on 7,600 acres of WSA.

IMPACTS ON WILDLIFE VALUES

In the nondesignated area, 610 acres (100 percent nondesignated area or 3.5 percent WSA) of crucial bighorn habitat; 950 acres (12.5 percent nondesignated area or 4.7 percent WSA) of desert tortoise and Gila monster habitat; and, 310 acres of suitable peregrine falcon habitat (100 percent nondesignated or 1.6 percent WSA) would be destroyed by mineral development. The loss of one desert bighorn is anticipated. The mining and associated roads would negatively affect these species because of increased contacts with humans which often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of the disturbed sites. Although this area would receive some protection from surface disturbing activities, such as ORV use, road construction, mine development and exploration, these activities will nonetheless degrade wildlife habitat as previously discussed. While quantification is not possible, this would result in the decrease in numbers and ranges of desert bighorn, desert tortoise and the Gila monster in this area.

Conclusion: A total of 610 acres of crucial bighorn habitat and 950 acres of desert tortoise and Gila monster habitat would be destroyed by mineral development. The loss of one desert bighorn is anticipated.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development, motorized vehicle use and water catchment construction.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of five mines would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 1,550 acres developed for minerals and road access.

All Wilderness Alternative (Map 2-3)

The *All Wilderness* alternative would designate 30,600 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Burns Springs WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because anticipated road construction and motorized vehicle recreation use would be excluded. However, under wilderness management, five mines (on mining claims that had proven discoveries or on nonfederal minerals) would be developed within the wilderness in a manner affecting wilderness values.

Eliminating all motorized recreation use on 30,600 acres would benefit the wilderness values of solitude and primitive recreation on the 6,000 acres on which wilderness values are impaired by ORV use. Wilderness visitors would not encounter or hear motorized users in the 20 percent of the WSA presently affected by motorized use.

The natural character of 1/4 acre would be impaired by the development of two potholes or wildlife water catchments. Installed under strict wilderness management constraints, however, the facilities would blend in with their surroundings and be noticeable only upon direct encounter. There would be some brief losses of wilderness values during construction and periodic maintenance.

Development of five mines is anticipated whether the area is designated wilderness or not. Mining and eight miles of road construction would result in long-term loss of naturalness on 1,562 acres. The sights and sounds of mining and traffic would be visible and audible from surrounding areas; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired on 6,000 acres (20 percent).

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 80 percent of the WSA by precluding motorized vehicle recreation and development.

IMPACTS ON MINERALS DEVELOPMENT

Under the *All Wilderness*, exploration would be limited to that accomplished prior to designation.

Conclusion: The *All Wilderness* would preclude future exploration projects.

IMPACTS ON RECREATION USE

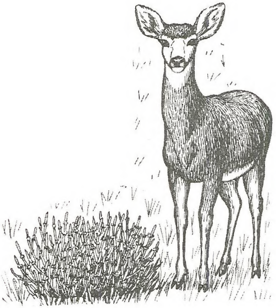
The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use by closing 30,600 acres to motorized use, thus displacing 200 VDY of motorized use. Nonmotorized recreation activities (day hiking, backpacking, wildlife observation and photography) on 30,600 acres within the area would benefit as a result.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 30,600 acres, and displace 200 VDY of motorized use.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 29,051 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 16,360 acres (96.4 percent of habitat in the WSA) of crucial bighorn habitat; one half (approximately 4,120 acres) of the Burns Spring lambing grounds; 18,850 acres (98.1 percent of habitat in the WSA) of suitable peregrine falcon habitat; and 29,051 acres (94.9 percent of suitable habitat in the WSA) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would exclude bighorn from 600 acres (3.5 percent of habitat in the WSA) of their crucial habitat, and peregrine falcon from 350 acres (1.8 percent of habitat in the WSA) of their suitable habitat. The loss of one desert bighorn is anticipated. The eight miles of new roads along with the mines will directly destroy 1,550 acres (5.0 percent of habitat in the WSA) of suitable desert tortoise and Gila monster habitat. All of the above mentioned wildlife adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.



Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease significantly because recreational travel will be restricted to foot travel. Therefore, recreation related human contacts resulting in disturbances to wildlife would be minimal. This sharply contrasts with the increased human disturbance related to mineral development.

Conclusion: The *All Wilderness* alternative would protect 16,360 acres of crucial bighorn habitat, 18,850 acres of suitable peregrine falcon habitat, and 29,051 acres of suitable desert tortoise and Gila monster habitats from further significant surface disturbing activities.

Mineral development would result in surface disturbances that would adversely impact 1,550 acres of suitable desert tortoise and Gila monster habitat; this includes 600 acres of crucial desert bighorn habitat and 350 acres of suitable peregrine falcon habitat. The loss of one bighorn is anticipated.

IMPACTS ON CULTURAL RESOURCES

This alternative is essentially the same as the *Proposed Action/Partial Wilderness*.

No other resources would be impacted by this alternative.

No Wilderness Alternative (Map 2-3)

The *No Wilderness* alternative would return 30,600 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Burns Springs WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long-term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, seven mining exploration programs, five anticipated mining ventures, and the construction of two wildlife water developments.

Mining exploration programs would result in five mining operations and their associated eight miles of road construction which would impair the natural character of 1,562 acres. Visitors' perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 6,200 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Construction of the two water catchments would directly disturb the naturalness and solitude on one-quarter acre. Since these catchments would be concealed, the visitor's perception of the would not extend beyond the immediate one-quarter acre of disturbance.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by the mining development. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and vastly improved vehicular access are the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline around each of the five mines—results of road building and mining.

Because 30,600 acres would be open, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 6,000 acres (20 percent) of the WSA. Improved mine road access on eight miles of new road would permit vehicles to traverse or reach portions of the WSA presently infrequently or never visited by motor-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction and water catchments would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 30 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, 22,161 acres of Federal mineral estate would remain open to mineral entry under the mining laws allowing one large, two medium sized, and one small open-pit mines to be developed on federal minerals and one medium sized open-pit mine to be developed on private minerals.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of four open-pit mines.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation activities in the Burns Spring WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

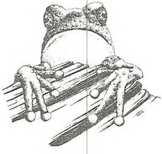
Under the *No Wilderness* alternative 30,600 acres would be returned to multiple use management under MFP decisions. While management under MFP decisions would provide the area with some control of surface disturbances caused by road construction, ORV use, mine development and mine exploration, these activities would impair habitats of desert bighorn, peregrine falcon, desert tortoise and the Gila monster. Increased human activity would disturb wildlife, and also result in wildlife harassment, collection and direct killing. While quantification is not possible, this disturbance would result in the decrease in numbers and ranges of desert bighorn (affecting 16,360 acres of crucial habitat including 4,120 acres of the Burns Spring lambing grounds), peregrine falcon (affecting 19,200 acres of suitable habitat), and the desert tortoise and Gila monster (affecting 30,600 acres of suitable habitat).

ORV use would increase and motorized vehicles will have the same effects on wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 600 acres (3.5 percent of habitat in the WSA) of crucial bighorn habitat, 350 acres (1.8 percent of habitat in the WSA) of peregrine falcon suitable habitat, and 1,550 acres (5 percent of habitat in the WSA) of suitable desert tortoise and Gila monster habitat. These species are expected to be eliminated within 1/4 to 1/2 mile of disturbed sites.

Conclusion: Under the *No Wilderness* alternative 16,360 acres of crucial bighorn habitat (includes 4,120 acres of lambing grounds), 19,200 acres of suitable peregrine falcon habitat, and 30,600 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction, and mine exploration and development.

Mine development would destroy 600 acres of crucial bighorn habitat, 350 acres of suitable peregrine falcon habitat and 1,550 acres of suitable desert tortoise and Gila monster habitat.



IMPACTS ON CULTURAL RESOURCES

The *No Wilderness* alternative would not provide the additional protection of wilderness status. Vehicle travel, future mining activity and new road construction would not be limited. This alternative would increase negative impacts to the cultural resources that are probably present.

Conclusion: Additional protection would not be provided for two prehistoric rock shelters, two historical mines and a prehistoric campsite that are probably present.

No other resources would be impacted by this alternative.

MOUNT TIPTON WSA

(AZ-020-12/42) — 34,060 acres

Proposed Action/Partial Wilderness

(Map 2-4)

The *Proposed Action/Partial Wilderness* for the Mount Tipton WSA would designate 28,170 acres as wilderness and 5,890 acres for other resource uses. Boundary adjustments would eliminate an irregularly shaped appendage of WSA land which is isolated from the much more scenic main mass of the WSA. This eliminated area also contains some high mineral potential areas and a projected mine.

Under this alternative the following environmental consequences are anticipated.

Area proposed for wilderness designation.

IMPACTS ON WILDERNESS VALUES

The *Proposed Action/Partial Wilderness* alternative would provide long-term legislative protection to wilderness values on 28,170 acres of the WSA. Wilderness values would benefit in certain areas because motorized vehicle use, an anticipated large open-pit mine, and the harvest of yucca would be excluded. Two open pit mines on mining claims with valid existing rights would be developed within the wilderness in a manner affecting wilderness values.

Precluding the development within the wilderness of one large open-pit and its associated two miles of access road construction would maintain the existing wilderness value of naturalness on 600 acres. Moreover, the perception of naturalness and opportunities for solitude and primitive recreation would be sustained across 2,250 acres.

Two mining operations and their associated three miles of road construction would cause extensive and long-term surface disturbances that would impair the natural character of 355 acres. Visitors' perception of naturalness would also be lost or impaired over an area of 1,350 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

A right-of-way would be granted for access to a private inholding which would involve construction of 1.2 miles of access road and impairment of natural character on two acres. Visitor perception of naturalness would be lost or impaired over an area of 200 acres.

Two range improvement projects would be developed—each would disturb 0.25 acre. Access to these developments would not require road construction. Natural character would thus be disturbed on a total of 0.5 acre. Visitor perception of naturalness would be lost or impaired over an area of 40 acres.

Four wildlife water (spring) developments would be built. Each development would disturb 1/4 acre. Access to these sites would not require road construction so natural character would only be disturbed on a total of one acre. Design criteria would be such that no disturbance to the visitor's perception of the wilderness, quality of naturalness, solitude and primitive recreation would result outside this one acre of disturbance.

Elimination of a projected 280 acres Mohave yucca harvest area would benefit the wilderness values of naturalness, solitude and primitive recreation. Wilderness visitors would not encounter an area where most of the Yucca above three feet in height have been removed. Visitor perception of naturalness would be preserved over an area of 400 acres.

Eliminating all motorized recreation use on 28,170 acres of wilderness would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users on the 800 acres of the designated portion of the WSA presently subject to the sights and sounds of motorized vehicles. All washes and trails would be available for only foot and horseback travel.

Opportunities for solitude and primitive recreation that would be preserved by wilderness designation include skill-testing cross-country treks, nontechnical rock climbing, birdwatching, some good horseback riding possibilities, photography and general sightseeing.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 96 percent of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from mining developments, motorized vehicle use and the harvest of Mohave yucca.

IMPACTS ON MINERALS DEVELOPMENT

Under the *Proposed Action/Partial Wilderness*, 28,170 acres of mineral estate would be withdrawn from mineral entry under the mining laws, precluding all future mineral exploration.

Conclusion: The *Proposed Action/Partial Wilderness* would preclude future mineral exploration projects.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 28,170 acres by closing this land to motorized use and displacing 100 VDY of motorized recreation use to nearby public lands. Nonmotorized recreation activities that would benefit are horseback riding, day hiking, sightseeing, overnight backpacking, wildlife observation and photography.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 28,170 acres by displacing 100 VDY of motorized recreation use to nearby public lands.

IMPACTS ON WILDLIFE VALUES

The *Proposed Action/Partial Wilderness* would protect 27,820 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 8,000 acres (100 percent in WSA) of suitable peregrine falcon and 22,186 acres (98.4 percent in WSA) of suitable Gila monster habitat.

Mineral development and the subsequent increase in human activity would impair 350 acres of Gila monster suitable habitat. Gila monsters living adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. This species is expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease significantly because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *Proposed Action/Partial Wilderness* would protect 27,820 acres of wildlife habitat, including 800 acres of suitable peregrine habitat and 22,186 acres of suitable Gila monster habitat from further significant surface-disturbing activities. Mineral development would impair 350 acres of Gila monster habitat.

IMPACTS ON VEGETATION SALES

Under the *Proposed Action/Partial Wilderness* 280 acres of Mohave yucca would be protected from harvest.

Denial of harvest within the WSA would have a slight economic impact on the local industry that harvests this plant for fertilizer. This impact would be small as there are many harvestable sections available outside the WSA.

Conclusion: The 280 acres of Mohave yucca would not be harvested.

IMPACTS ON CULTURAL RESOURCES

The rock shelter and prehistoric/historic camps would be protected from the direct impacts of surface impairment from motorized vehicles because recreational vehicle use would be prohibited. The cultural resources would also be protected from possible increased vandalism. Wilderness designation is viewed as generally being beneficial for cultural resources.

Conclusion: Prehistoric/historic camps and a rock shelter would receive protection from surface disturbances related to motor vehicle use.

Area recommended for uses other than wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness values on the 5,890-acre portion of the WSA returned to other resource uses would not receive the legislative protection provided by wilderness designation. Over the long-term, wilderness values would experience adverse impacts from motorized vehicle use and the establishment of one open-pit mine.

One exploration program resulting in the establishment of an open-pit mine would impair the natural character of 600 acres (extensive long-term surface disturbance). Visitors' perception of naturalness would be lost or impaired over the 1,900 acres of surrounding lands where visitors would be directly subject to the sights of the mine.

Solitude and primitive recreation opportunities would also deteriorate in the area because motorized vehicle traffic would continue. The sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities over 600 acres.

Conclusion: Motorized vehicle use and establishment of an open-pit mine would impair wilderness values on 2,500 acres (42 percent of the area recommended for uses other than wilderness).

IMPACTS ON MINERAL DEVELOPMENT

The *Proposed Action/Partial Wilderness* alternative would allow mineral entry on 5,890 acres of public land. As a result, there would be exploration programs in the WSA and mining developments would be allowed in the area.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would allow the development of mines within the 5,890 acres of public land open to mineral development.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation use on 5,890 acres of WSA, although motorized recreation use levels would increase slightly because of displacement of motorized recreationists from the wilderness portion of the area.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 5,890 acres of WSA.

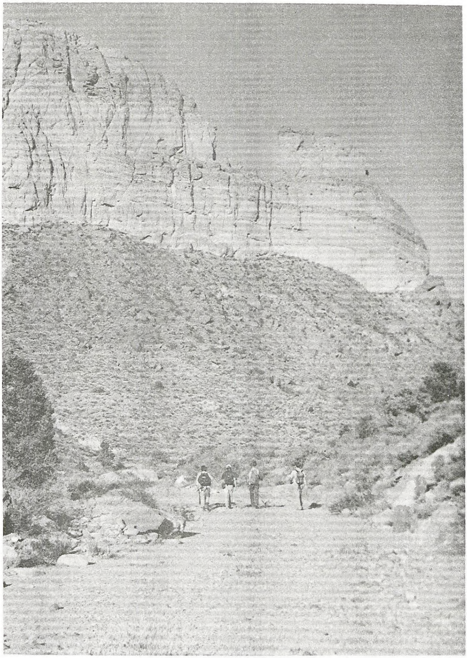
IMPACTS ON WILDLIFE VALUES

In this area, 600 acres of suitable Gila monster habitat would be destroyed by mineral development. The mining and associated roads would negatively affect this species because of increased contacts with humans which often results in harassment, collection and direct killing. This species is expected to be reduced or eliminated within 1/4 to

1/2 mile of the disturbed area. This acreage as well as the other 5,290 acres not being developed by the mining industry would be returned to other resource uses under the MFP decisions. Although this area would receive some protection from surface disturbing activities, such as ORV use, road construction, mine development and exploration, these activities would nonetheless degrade wildlife habitat as previously discussed. While quantification is not possible, this would result in the decrease in numbers and range of the Gila monster in this area.

Conclusion: A total of 600 acres of Gila monster habitat would be destroyed.

No other resources would be impacted by this alternative.



Hikers head down a wash in northern portion of Mount Tipton area.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development, motorized vehicle use and grazing and wildlife water development construction.

Potential mining developments would be denied on 250 acres.

RELATIONSHIP BETWEEN LOCAL AND SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of three mines would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 950 acres developed for minerals.

All Wilderness Alternative (Map 2-5)

The *All Wilderness* alternative would designate 34,060 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Mount Tipton WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because motorized vehicle use and 250 acres of mining would be excluded. However, under wilderness management, three mines (on mining claims that had proven discoveries or on nonfederal minerals) would be developed within the wilderness in a manner affecting wilderness values.

Precluding 250 acres of mining disturbance would maintain the existing wilderness value of naturalness. Moreover, the perception of naturalness would be preserved and the quality and solitude and primitive recreation opportunities sustained across 900 acres.

Eliminating all motorized recreation use on the 1,400 acres presently accessible to motor vehicles would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not encounter or hear motorized users in the 4 percent of the WSA presently affected by motorized use.

Because of valid existing rights, development of three mines is anticipated whether the area is designated wilderness or not. Mining and five miles of road construction would result in long-term loss of naturalness on 950 acres. The sights and sounds of mining and traffic would be visible and audible from the surrounding area; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired on 3,600 acres.

A right-of-way would be granted for access to a private inholding. This would involve construction of 1.2 miles of access road, thus impairing natural character on 2 acres. Visitor perception of naturalness would be lost or impaired over an area of 200 acres.

Two range improvement projects would each disturb 0.25 acre, but access would not require road construction. Natural character would thus be disturbed on a total of 0.5 acre. Visitor perception of naturalness would be lost or impaired over an area of 40 acres.

Four wildlife water (spring) developments would each disturb 1/4 acre. Access to these sites would not require road construction. Natural character would thus be disturbed on a total of 1 acre. Design criteria would be such that no disturbance to the visitor's perception of the wilderness, quality of naturalness, solitude and primitive recreation would result outside this one acre of total disturbance.

Elimination of a projected 280-acre Mohave yucca harvest area would benefit the wilderness values of naturalness, solitude, and primitive recreation. Wilderness visitors would not encounter an area where most of the Yucca above three feet in height have been removed. Visitor perception of naturalness would be preserved over an area of 400 acres.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 92 percent of the WSA by precluding motorized vehicle recreation, harvest of Mohave yucca and some mining.

IMPACTS ON MINERALS DEVELOPMENT

Wilderness designation would exclude all future exploration and mining without a valid discovery prior to the inclusion into the wilderness system.

Conclusion: The *Proposed Action/All Wilderness* alternative would preclude future exploration projects.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use by closing 34,060 acres, thus displacing 150 VDY of motorized use. Nonmotorized recreation activities (day hiking, backpacking, horseback riding and photography) on 34,060 acres within the area would benefit as a result, increasing from 400 VDY to 800 VDY.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 34,600 acres and displace 150 VDY of motorized use.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 33,103 acres of wildlife habitat from further significant surface disturbing activities such as mineral exploration and ORV use. It would protect 8,000 acres (100 percent in WSA) of suitable peregrine falcon habitat and 27,469 acres (96.6 percent in WSA) of suitable habitat for the Gila monster.

Mineral development and the subsequent increase in human activity would destroy 957 acres (4.27 percent of the WSA) of Gila monster habitat. Gila monsters adjacent to roads and mines would be negatively affected because of increased contacts with humans which often result in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 33,103 acres of wildlife habitat. This includes 8,000 acres of suitable peregrine habitat, and 27,469 acres of suitable Gila monster habitat from further significant surface-disturbing activities. Mineral development would impair 957 acres of suitable Gila monster habitat.

IMPACTS ON VEGETATION VALUES

Under the *All Wilderness* alternative 280 acres of Mohave yucca in the WSA would be protected from harvest.

Denial of harvest within the WSA would have a slight economic impact on the local industry that harvests this plant for fertilizer. This impact would be small as there are many harvestable sections available outside the WSA.

Conclusion: The 280 acres of Mohave yucca would be protected from harvest.

IMPACTS ON CULTURAL RESOURCES

This alternative would have the same results as *Proposed Action/Partial Wilderness* since all of the known cultural resources were included in the partial area recommended for designation.

No other resources would be impacted by this alternative.

No Wilderness Alternative (Map 2-5)

The *No Wilderness* alternative would return 34,060 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of Mount Tipton WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, mining exploration programs, two anticipated mining ventures, construction of four wildlife waters (spring developments), two livestock waters, harvest of Mohave yucca and construction of road to access private inholdings.

Because the entire 34,060 acres would be open to ORV use, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across seven percent of the WSA. The 1,400 acres are presently used by ORV recreationists. Improved mine road access on five miles of new road would permit vehicles to traverse or reach portions of the WSA (1,000 additional acres — 2 percent) infrequently or never visited by motor-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Mining exploration programs would result in two mining operations and associated five miles of road construction which would impair the natural character of 1,207 acres. Visitor's perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 4,150 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction roads and traffic.

Four new wildlife water (spring) developments would each disturb 1/4 acre, but access would not require road construction. Natural character would thus be disturbed on a total of one acre. Design criteria would be such that no disturbance to the visitor's perception of the wilderness qualities of naturalness, solitude and primitive recreation would result outside this one acre of total disturbance.

Two new range improvements projects would each disturb 0.25 acre, but access would not require road construction. Natural character would thus be disturbed on a total of 0.5 acre. Visitor perception of naturalness would be lost or impaired over an area of 40 acres.

A right-of-way for access to a private inholding would involve construction of 1.2 miles of access road, thus impairing natural character on two acres. Visitor perception of naturalness would be lost or impaired over an area of 200 acres.

A projected Mohave yucca harvest on the western edge would directly impact 280 acres and would impair visitor perception of naturalness on a greater area of 400 acres.

Conclusion: The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction, wildlife waters, range improvements, right-of-way road access development and Mohave yucca harvest would cause a loss of impairment of wilderness values of naturalness, solitude and primitive opportunities on 21 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, 34,060 acres of mineral estate would remain open to mineral entry. Two large open-pit mines would be developed on federal and private minerals. The total cumulative physical area of impact would be approximately 1,207 acres.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of two large open-pit mines on federal and private minerals impacting 1,207 acres.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation activities occurring in the Mount Tipton WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative 34,060 acres would be returned to multiple use management under MFP decisions. This area would receive some protection from road construction, ORV use, mine development and mine exploration, these activities, nonetheless, would degrade suitable habitats of the peregrine falcon and the Gila monster by increasing human activity and disturbance to wildlife. This often results in harassment, collection and direct killing. While quantification is not possible, this disturbance would result in the decrease in numbers and ranges of peregrine falcon (affecting 8,000 acres of suitable habitat), and the Gila monster (affecting 28,426 acres of suitable habitat).

ORV use would increase and the use of motorized vehicles would have the same effects on wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 1,207 acres of suitable Gila monster habitat. This species is expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Conclusion: Under the *No Wilderness* alternative 8,000 acres of suitable peregrine falcon habitat and 28,426 acres of suitable Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities, such as ORV use, road construction and mine exploration and development. Mine development would destroy 1,207 acres of suitable Gila monster habitat.

IMPACTS ON VEGETATION VALUES

Under the *No Wilderness* alternative 280 acres of Mohave yucca would be harvested. This would temporarily eliminate 90 percent of the estimated seed producing Mohave yuccas in the harvest area. Under this alternative the harvest industry's planned harvest would be unaffected.

Conclusion: The 280 acres of Mohave yucca would be harvested.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide the additional protection of wilderness status. Vehicle travel, future mining activities, and new road construction would increase negative impacts to the prehistoric/historic camp sites and the rock shelter site. Although visitor use would not increase, the lack of wilderness designation is viewed as generally being nonbeneficial for cultural resources.

Conclusion: Prehistoric/historic camps and a rock shelter would be subject to impairment from such surface disturbance as mineral and road development and recreational ORV use.

No other resources would be impacted by this alternative.

GRAPEVINE WASH WSA
(AZ-020-14) — 2,200 acres

Proposed Action/No Wilderness Alternative (Map 2-7)

The *Proposed Action/No Wilderness* alternative would return 2,200 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Grapevine Wash WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long-term, wilderness values in certain areas would experience adverse impacts from one mining exploration program and one anticipated mining venture.

The mining exploration program would result in one mining operation and its associated one mile of road construction which would impair the natural character of 301 acres. (Presently, these areas have no evidence of mining. Visitors' perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over the larger area of 2,200 acres (100 percent of the unit)—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by mining. Hiking and sightseeing opportunities would experience a considerable decline around the open pit mine—a result of road building and mining. The sights and sounds of mine development and the building of vehicular access would be the primary factors causing deterioration of naturalness and scenic features.

Because the entire unit would be open to ORV use, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 50 percent of the WSA and increase the chances of nonmotorized recreationists meeting vehicles. Improved mine road access on one mile of new road would permit vehicles to reach portions of the WSA never visited by vehicle-dependent recreationists.

Conclusion: The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, and road construction would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 100 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, 2,200 acres of federal mineral estate would remain open to mineral entry under the mining laws and would allow for a much more detailed evaluation of the resource potential, resulting in the development of one medium open-pit mine.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and the exploration and development of one medium open-pit mine.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation activities in the Grapevine Wash WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative 2,200 acres would be returned to management under MFP decisions. Although this area would receive some protection from road construction, ORV use, mine development and mine exploration, these activities nonetheless would degrade habitats of desert bighorn and Gila monster by increasing human activity and disturbance to wildlife. This often

results in harassment, collection and direct killing. While quantification is not possible, this disturbance would result in the decrease in numbers and ranges of desert bighorn (affecting 2,200 acres of crucial habitat), and the Gila monster (affecting 2,200 acres of suitable habitat).

ORV use would increase and the use of motorized vehicles would have the same effects on wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 302 acres (13.7%) of crucial bighorn habitat, and 302 acres (13.7%) of suitable Gila monster habitat. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Conclusion: Under the *No Wilderness* alternative 2,200 acres of crucial bighorn and suitable Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction and mine exploration and development. Mine development would destroy 302 acres of crucial bighorn and 302 acres of suitable Gila monster habitat.

IMPACTS TO CULTURAL RESOURCES

Under this alternative, none of the WSA acres would be designated wilderness. Surface disturbance from one 300 acre mine and ORV use would adversely impact two roasting pit sites. Visitor use would increase vandalism of the sites.

Conclusion: Two roasting pit sites would not be protected from ORV use, vandalism and mineral development.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development and motorized vehicle use.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of one mine would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 301 acres developed for minerals and road access.

All Wilderness Alternative (Map 2-7)

The *All Wilderness* alternative would designate 2,200 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Grapevine Wash WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because anticipated road construction, motorized vehicle use and some mining would be excluded.

Precluding mineral exploration and the development of one medium mine would maintain the existing wilderness value of naturalness on 300 acres. Moreover, the perception of naturalness would be preserved and the quality and solitude and primitive recreation opportunities sustained across 2200 acres.

Continuing to exclude all motorized recreation use on 2200 acres would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not see or hear motorized users.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across all of the WSA by precluding a mining operation and excluding motorized recreation.

IMPACTS ON MINERALS DEVELOPMENT

Under *All Wilderness* the exploration projects and the development of the minerals resources in the area would be curtailed.

Conclusion: *All Wilderness* would stop the development of one medium open pit mine employing 25 people.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would not change existing opportunities for nonmotorized recreation use on 2,200 acres, as no motorized use presently occurs on the acreage.

Conclusion: The *All Wilderness* alternative would not change existing opportunities for nonmotorized use on 2,200 acres.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 2,200 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 2,200 acres (100%) of crucial bighorn habitat and 2,200 acres (100%) of suitable habitat for the Gila monster.

Although there would be an increase visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 2,200 acres of crucial bighorn habitat and 2,200 acres of suitable Gila monster habitat from further significant surface-disturbing activities.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide some protection for the known cultural resources. The vehicle travel limitation would protect the roasting pit sites from ORV use and possible vandalism.

Although BLM actions are not planned for this WSA, wilderness designation would limit future activities and generally be beneficial for the preservation of these unusual sites.

Conclusion: Two roasting pit sites would be better protected under this alternative.

No other resources would be impacted by this alternative.

GRAND WASH CLIFFS WSA

(AZ-020-15) — 12,176 acres

Proposed Action/No Wilderness Alternative (Map 2-7)

The *Proposed Action/No Wilderness* alternative would return 12,176 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Grand Wash Cliffs WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, four mining exploration programs, one anticipated mining venture, proposed range improvements, and the construction of a wildlife water catchment.

Four mining exploration program would result in one mining operation and an associated 0.5 mile of road construction which would impair the natural character of 51 acres. (Presently, these areas have no evidence of mining and are reached by unmaintained and barely discernible vehicle trails.) Visitors' perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 1,000 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Construction of one wildlife water catchment would directly disturb the naturalness and solitude on 1/4 acre. The visitor's perception of these wilderness qualities would be impaired over less than one acre because the catchment would be designed to be nonintrusive on the natural scene.

Construction of one livestock water development would directly impair the naturalness and solitude on 1/2 acre and the visitor's perception of solitude and naturalness over the 200 acres from which it would be visible. A 110-acre prescribed burn to modify vegetation types would impair the wilderness value of naturalness over the entire burn area.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by the mining, range improvements and water catchment development. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and improved vehicular access are the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline around the new underground mine—a result of road building and mining. These lost opportunities are mostly offset by the abundance of similar opportunities throughout the region.

Because 12,176 acres would be open, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across the 20 percent of the WSA accessible to ORVs. Improved mine road access on 0.6 miles of new road would permit vehicles to traverse or reach a portion of the WSA never visited by motor-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction and water catchments would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 30 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

One medium sized underground mine would be developed on federal minerals and would disturb 51 acres.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the WSA, as well as the exploration and development of one medium sized underground mine.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation activities in the Grand Wash Cliffs WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative 12,176 acres would be returned to multiple use management under MFP decisions. Although this area would receive some protection from road construction, ORV use, mine development and mine exploration, these activities nonetheless would degrade suitable habitats of the peregrine falcon and the Gila monster by increasing human activity and disturbance to wildlife. This often results in harassment, collection and direct killing. While quantification is not possible, this disturbance would result in the decrease in numbers and ranges of peregrine falcon (4,480 acres of suitable habitat) and the Gila monster (12,176 acres of suitable habitat).

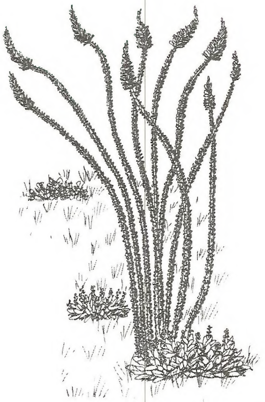
ORV use would increase causing the same effects on wildlife as discussed above.

Mine development and the subsequent increase in human activity would impair 51 acres (1.3% of habitat in WSA) of peregrine falcon suitable habitat and 51 acres (0.4% of habitat in WSA) of suitable Gila monster habitat. These species would be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Conclusion: Under the *No Wilderness* alternative 4,480 acres of suitable peregrine falcon habitat, and 12,176 acres of suitable Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction and mine exploration and development. Mine development would destroy 51 acres of suitable peregrine habitat, and 51 acres of suitable Gila monster habitat.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide additional protection for two large roasting pits, two prehistoric campsites and a prehistoric rock shelter that are probably present. Vehicle travel, future mining activity and new road construction would increase negative impacts to these sites.



Conclusion: Two large roasting pits, two prehistoric campsites and a prehistoric rock shelter would not be better protected.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development, motorized vehicle use and livestock and wildlife developments.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of one mine would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 51 acres developed for minerals and road access.

All Wilderness Alternative (Map 2-7)

The *All Wilderness* alternative would designate 12,176 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Grand Wash Cliffs WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because anticipated road construction, motorized vehicle use and some mining would be excluded. One mine (on mining claims that had proven discoveries or on nonfederal minerals) would be developed within the wilderness in a manner affecting wilderness values.

Eliminating all motorized recreation use on 12,176 acres would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not see or hear motorized users in the 2,400 acres (20%) of the WSA presently used by vehicles.

The natural character of 1/4 acre would be impaired by the development of a pothole or wildlife water catchment. Installed under strict wilderness management constraints, however, the facilities would blend in with their surroundings and be noticeable only upon direct encounter. There would be some brief disturbance during construction and periodic maintenance.

Development of one underground mine is anticipated whether the area is designated wilderness or not. Mining and one mile of road construction would result in long-term loss of naturalness on 51 acres. The sights and sounds of mining and traffic would be visible and audible from surrounding area; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired on 1,000 acres.

Construction of one livestock water development would directly impair the naturalness and solitude on 1/2 acre and the visitor's perception of solitude and naturalness over the 200 acres from which it would be visible. A 110-acre prescribed burn to modify vegetation types would impair the wilderness value of naturalness over the entire burn area for the short term, but natural revegetation would restore naturalness over the long term.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 89 percent of the WSA by precluding some mineral development and motorized vehicle recreation.

IMPACTS ON MINERALS DEVELOPMENT

Under the *All Wilderness*, 12,176 acres of federal mineral estate would be withdrawn from mineral entry, precluding future mineral exploration projects and not allowing the full utilization of the resource.

Conclusion: The *All Wilderness* would preclude future mineral exploration projects.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use by closing 12,176 acres, thus displacing 120 VDY of motorized use. Nonmotorized recreation activities (day hiking, backpacking and horseback riding) on 12,176 acres within the area would benefit as a result, increasing from 30 VDY to 80 VDY.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 12,176 acres, and would displace 120 VDY of motorized use.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 12,117 acres of wildlife habitat from further significant surface disturbing activities such as mineral exploration and ORV use. It would protect 4,421 acres (98.6%) of suitable peregrine falcon habitat, and 12,117 acres (99.5%) of suitable habitat for the Gila monster.

Mineral development and the subsequent increase in human activity would destroy 59 acres (1.3%) of peregrine falcon suitable habitat and 59 acres (0.4%) of suitable Gila monster habitat. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species would be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

While mineral related human disturbance would increase, recreational impacts to wildlife are expected to decrease because of a projected reduction in visitor use days and the restriction of recreational vehicle use. With recreational travel restricted to foot travel, recreation-related human contacts and disturbances to wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 12,117 acres of wildlife habitat from further significant surface disturbing activities. This includes 4,421 acres of suitable peregrine habitat and 12,117 acres of Gila monster habitat. Because of valid existing mining rights, 59 acres of suitable peregrine habitat and 59 acres of suitable Gila monster habitat would be destroyed.

IMPACTS ON CULTURAL RESOURCES

This *All Wilderness* alternative would provide additional protection for the cultural resources that are probably present. Vehicle travel, mining activity and new road construction would be limited or prohibited.

Conclusion: Two large roasting pits, two prehistoric campsites and a prehistoric rock shelter that are probably present would be better protected.

No other resources would be impacted by this alternative.

MOUNT DAVIS WSA

(AZ-020-21) — 2,560 acres

Proposed Action/No Wilderness Alternative (Map 2-1)

The *Proposed Action/No Wilderness* alternative would return 2,560 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Mount Davis WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, two mining exploration programs, one anticipated mining venture and the construction of a wildlife water catchment.

Mining exploration programs would lead to development of one mining operation and its associated 2 miles of road construction which would impair the natural character of 300 acres. (Presently, this area has no evidence of mining and is only reached by nonmotorized travel.) Visitors' perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over all of section 30 (640 acres)—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Construction of a wildlife water catchment would directly disturb the naturalness and solitude on 1/4 acre. Because the catchment would be concealed, these wilderness qualities would not extend outside the area occupied by the catchment.

The existing quality and array of primitive recreation opportunities, as well as the loss of naturalness and scenic features, would decline on WSA areas adversely affected by the mining. The sights and sounds of development and vastly improved vehicular access would be the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline in section 30—a result of road building and mining. These lost opportunities are mostly offset by the abundance of similar opportunities elsewhere in the region.

Because 2,560 acres and two miles of mine roads would be open, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across the 25 percent of the WSA which would be accessible to motor vehicles. Improved mine road access on two miles of new road would permit vehicles to traverse or reach portions of the WSA never visited by motor-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience in section 30.

Conclusion: The*No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction and water catchments would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 25 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

One medium sized open pit mine would be developed on federal minerals and disturb 303 acres.

Conclusion: The*No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and allow the exploration and development of one medium sized open-pit mine.

IMPACTS ON RECREATION USE

The*No Wilderness* alternative would allow construction of a mine access road to section 30, thus providing new recreation opportunities not presently available in the WSA. This alternative would not change existing opportunities for motorized and nonmotorized recreation activities in the other three sections of the Mount Davis WSA.

Conclusion: Opportunities for recreation use would remain unchanged in 75 percent of the WSA, and ORV recreation opportunities would be enhanced in section 30.

IMPACTS ON WILDLIFE VALUES

Under the*No Wilderness* alternative 2,560 acres would be returned to multiple use management under MFP decisions. Although this area would receive some protection from road construction, ORV use, mine development and mine exploration, these activities would nonetheless degrade habitats of desert bighorn, desert tortoise and the Gila monster by increasing human activity and disturbance to wildlife. This often results in harassment, collection and direct killing. While quantification is not possible, this disturbance would decrease the numbers and ranges of desert bighorn (affecting 2,460 acres of crucial habitat including 700 acres of the Mount Davis lambing grounds) and the desert tortoise and Gila monster (affecting 2,560 acres of suitable habitat).

ORV use would increase and the use of motorized vehicles would have the same effects on wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 300 acres (12.1% in the WSA) of crucial bighorn habitat and 300 acres (11.7% in the WSA) of suitable desert tortoise and Gila monster habitat. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Conclusion: Under the*No Wilderness* alternative 2,460 acres of crucial bighorn habitat and 2,560 acres of suitable desert tortoise and Gila monster habitat would be degraded because of increased surface-disturbing activities, such as ORV use, road construction, and mine exploration and development. Mine development would destroy 300 acres of crucial bighorn habitat and 300 acres of suitable desert tortoise and Gila monster habitat.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide additional protection for two prehistoric campsites and a prehistoric rock shelter that are probably present. Vehicle travel, mining activity and new road construction would increase negative impacts to these sites.

Conclusion: Two prehistoric campsites and a prehistoric rock shelter that are probably present would not be better protected.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development, motorized vehicle use and water catchment construction.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of one mine would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 300 acres developed for mining and road access.

All Wilderness Alternative (Map 2-1)

The*All Wilderness* alternative would designate 2,560 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Mount Davis WSA would provide long-term legislative protection for its wilderness values—values that would benefit in certain areas because motorized vehicle use would be legislatively excluded. However, under wilderness management, one mine (on mining claims that had proven discoveries) would be developed within the wilderness in a manner affecting wilderness values.

Eliminating all motorized recreation use on 2,560 acres would continue to benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not see or hear motorized users in the southern three sections of the WSA (75% of the total area).

The natural character of 1/4 acre would be impaired by the development of a pothole or wildlife water catchment. Installed under strict wilderness management constraints, however, the facilities would blend in with their surroundings and be noticeable only upon direct encounter. There would be some brief disturbances during construction and periodic maintenance.

Development of one mine is anticipated whether the area is designated wilderness or not. Mining and two miles of road construction would result in long-term loss of naturalness on 300 acres. The sights and sounds of mining and traffic would be visible and audible throughout section 30; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired on 640 acres.

Conclusion: Wilderness designation under the*All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 75 percent of the WSA by precluding motorized vehicle recreation and some mining.

IMPACTS ON MINERALS DEVELOPMENT

The*All Wilderness* designation would exclude all future mineral exploration.

Conclusion: *All Wilderness* would preclude future mineral exploration projects.

IMPACTS ON RECREATION USE

The*All Wilderness* alternative would not change existing opportunities for nonmotorized recreation use on 2,560 acres, as no motorized use presently occurs on this acreage.

Conclusion: The *All Wilderness* alternative would not change existing opportunities for nonmotorized use on 2,560 acres.

IMPACTS ON WILDLIFE VALUES

The*All Wilderness* alternative would protect 2,560 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration. It would protect 2,160 acres (87.8%) of crucial bighorn habitat; this includes 700 acres of the Mount Davis lambing grounds. The 2,260 acres (91.8%) of suitable habitat for the desert tortoise and Gila monster would be protected under this alternative.

Mineral development and the subsequent increase in human activity would destroy 300 acres (12.1%) of bighorn crucial habitat. The loss of one desert bighorn is anticipated. The three miles of new roads along with the mines would directly destroy 300 acres (11.7%) of suitable desert tortoise and Gila monster habitat. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species would be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts which often results in disturbances to wildlife would be minimal. This contrasts sharply with the increased wildlife disturbance caused by human mining-related activity.

Conclusion: The*All Wilderness* alternative would protect 2,160 acres of crucial bighorn habitat, and 2,260 acres of desert tortoise and Gila monster habitat from further significant surface disturbing activities. Because of valid existing mining rights, 300 acres of crucial bighorn habitat and 300 acres of desert tortoise and Gila monster habitat would be destroyed. The loss of one bighorn is anticipated.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide additional protection for the cultural resources that are probably present. Vehicle travel, mining activity and new road construction would be limited or prohibited.

Conclusion: Two prehistoric campsites and a prehistoric rock shelter that are probably present would be better protected.

No other resources would be impacted by this alternative.

MOUNT NUTT

(AZ-020-024) — 29,190 Acres

Proposed Action/Partial Wilderness

(Map 2-8)

The *Proposed Action/Partial Wilderness* for the Mount Nutt WSA would designate 27,210 acres as wilderness and 1,980 acres for other resource uses. This alternative differs from the*All Wilderness* alternative in that boundary adjustments would remove most of an irregularly shaped appendage of land which is isolated from the main mass of the WSA. This eliminated area also contains a 2.5 mile segment of a large coal slurry pipeline and associated maintenance trail, some high mineral potential areas and a projected medium sized open-pit mine. Another small area located in the north-central portion of the WSA, which is currently undergoing intensive mineral exploration preliminary to a probable medium sized open pit mine would also be removed. A very small tract located at the southeast corner of the WSA would also be removed. A jeep trail in this area allows for the only practical access to a patented mining claim located outside of the WSA, but surrounded by the same on three sides.

Under this alternative the following environmental consequences are anticipated.

Area proposed for wilderness designation.

IMPACTS ON WILDERNESS VALUES

The *Proposed Action/Partial Wilderness* alternative would provide long-term legislative protection for wilderness values on 27,210 acres of the WSA. Wilderness values would benefit in certain areas because motorized vehicle use and harvest of Mohave yucca would be excluded. However, whether or not the WSA is designated, three mines on mining claims with valid existing rights and two mines on nonpublic mineral estate, would be developed within the WSA in a manner affecting wilderness values. This use would occur in any event.

Three mining operations on public land and two mines located on nonpublic mineral estate and their associated four miles of road construction would cause extensive and long-term surface disturbances that would impair the natural character of 156 acres. Visitors' perception of naturalness would also be lost or impaired over an area of 850 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

Periodic maintenance activities on the Oatman water pipeline from Flag Springs (pipe replacement, repair and monitoring) would not impair the natural character of the area. Impacts to visitors' perceptions of naturalness and solitude would result only during the actual periods of maintenance.

Several existing range improvement projects would be maintained and two additional range improvement projects would be developed. The 3.5 miles of new fenceline would disturb three acres. The 1.8 miles of buried water pipeline would be constructed from an existing project and would disturb two acres. Access to those developments would not require road construction. Visitors' perceptions of naturalness would be lost or impaired over a total area of 20 acres.

Six existing wildlife water developments would be maintained and four additional wildlife water developments would be constructed. Each development would disturb 1/4 acre but access to the sites would not require road construction. Natural character would thus be disturbed on a total of one acre. Design criteria would be such that no disturbance to visitors' perceptions of the wilderness qualities of naturalness and solitude would result outside of this one acre of total disturbance.

Bighorn Cave, an archeological site, would be excavated using the minimum tool policy guidance. This disturbance to areas outside of the cave would be negligible. Visitors' perceptions of the wilderness qualities of naturalness and solitude would be disturbed in the area surrounding the cave, its access trail and temporary field camp only during periods of excavation.

Elimination of a projected 950 acres of Mohave yucca harvest areas would benefit the wilderness values of naturalness, solitude and primitive recreation. Wilderness visitors would not encounter an area where most of the Yucca above 3-feet in height have been removed. Visitors' perceptions of naturalness would be preserved over an area of 1,200 areas.

Eliminating all motorized recreation use on 28,170 acres of wilderness would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not see or hear motorized users on the 3,000 acres of the designated portion of the WSA presently used by vehicles. All washes and trails would be available for foot and horseback travel only.

Opportunities for solitude and primitive recreation that would be preserved by wilderness designation include skill-testing cross-country treks, wildlife observation, photography and sightseeing.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 84.6 percent of the designated portion of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from motorized vehicle use and the harvest of Mohave yucca.

IMPACTS ON MINERALS DEVELOPMENT

Under the *Proposed Action/Partial Wilderness*, 27,210 acres of mineral estate would be withdrawn from mineral entry, limiting the number of exploration projects, but not stopping the development of four open-pit mines and one underground mine.

Conclusion: The *Proposed Action/Partial Wilderness* would limit the number of exploration projects, but would not impede the development of four open-pit mines and one underground mine.

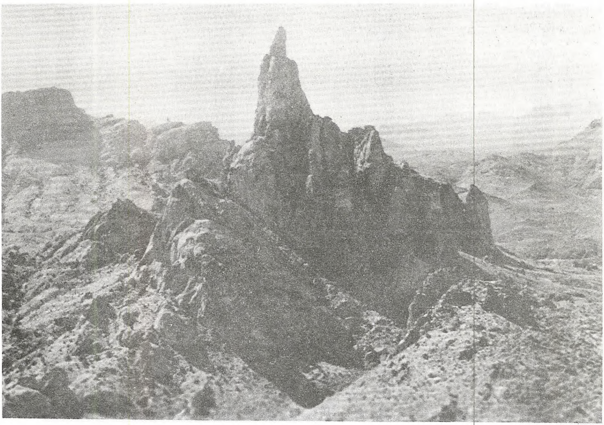
IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 27,210 acres by closing the area to ORV use and displacing 1,200 VDY of motorized recreation use to nearby public lands. Nonmotorized recreation activities that would benefit are horseback riding, day hiking, sightseeing, overnight backpacking, wildlife observation and photography, increasing from 1,800 VDY to 2,800 VDY.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 27,210 acres by displacing 1,200 VDY of motorized recreation use to nearby public lands.

IMPACTS ON WILDLIFE VALUES

The *Proposed Action Partial Wilderness* would protect 26,780 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 20,310 acres (97.9%) in designated area or 88.4% in WSA) of crucial bighorn habitat (including 8,000 acres of the 8,480 acre Mount Nutt lambing grounds); 22,770 acres (98.5% in designated area or 87.8% in WSA) of suitable peregrine falcon habitat and 26,780 acres (98.4% in designated area or 91.7% in WSA) of suitable habitat for the desert tortoise and Gila monster.



Thumb Butte — Mount Nutt WSA.

Mineral development access road development and the subsequent increase in human activity would destroy 156 acres (0.7% in designated area or 0.6% in WSA) that is bighorn crucial habitat and suitable desert tortoise and Gila monster habitat and 125 acres (0.5% in designated area or 0.4% in WSA) of peregrine falcon suitable habitat. The loss of one desert bighorn is anticipated. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often results in harassment, collection and direct killing. These species would be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *Proposed Action/Partial Wilderness* would protect 26,780 acres of wildlife habitat—20,310 acres of crucial bighorn habitat (including 8,000 acres of lambing grounds), 22,770 acres of suitable peregrine falcon habitat, and 26,780 acres of desert tortoise and Gila monster suitable habitat—from further significant surface-disturbing activities.

Mineral development would impair 156 acres of special-status wildlife habitat. This includes 156 acres of crucial desert bighorn habitat and 125 acres of suitable peregrine falcon habitat. The loss of one bighorn is anticipated.

IMPACTS ON VEGETATIVE SALES

Under the *Proposed Action/Partial Wilderness* 960 acres of Mohave yucca would be protected from harvest.

Denial of harvest within the WSA would have a slight economic impact to the local industry that harvests this plant for fertilizer. This impact would be small as there are many harvestable yuccas available outside the WSA.

Conclusion: A total of 960 acres of Mohave yucca would be protected from harvest.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide the added protection of wilderness status. A rock shelter would be protected from the expansion of planned mining operations. Vehicles would not be allowed to drive up to pictograph and petroglyph sites.

Future excavations at the Bighorn Cave site would be restricted or made more difficult, but designation as wilderness would generally be beneficial for the cultural resources present.

Conclusion: Bighorn Cave, a rock shelter, and pictograph and petroglyph sites would be better protected. Future archaeological work at the Bighorn Cave might be more difficult.

Area recommended for uses other than wilderness

IMPACTS ON WILDERNESS VALUES

Wilderness values on the 1,980-acre portion of the WSA returned to other resource uses would not receive the legislative protection provided by wilderness designation. Over the long term, wilderness values would experience adverse impacts from motorized vehicle use, mineral development and coal slurry line maintenance.

Two mining operations would cause extensive and long-term surface disturbance that would impair the natural character of 600 acres. Visitors' perception of naturalness would be lost or impaired over an area of 1,650 acres, surrounding lands where visitors would be directly subject to the sight and sound of mining, construction, roads and traffic.

Solitude and primitive recreation opportunities would also deteriorate in the area because motorized traffic would continue. The sights and sounds of motorized recreation use on these areas would lessen the quality of solitude and primitive recreation opportunities over a larger area of 520 acres.

Periodic maintenance activities on the Black Mesa Pipeline coal slurry line would be pipe replacement, repair, and monitoring. Additional impacts to the natural character of the area paralleling the pipeline would be minor sporadic impacts to visitors' perceptions of naturalness and solitude but would occur only during the actual periods of maintenance.

Conclusion: Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use and water catchment construction would impair wilderness values on the undesignated portion of the WSA.

IMPACTS ON MINERAL DEVELOPMENT

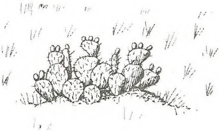
The *Proposed Action/Partial Wilderness* alternative would allow mineral entry on 1,980 acres of public land. As a result, there would be exploration programs and no mining developments would be denied.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not prevent the development of any potential mines within the 1,980 acres of public land open to mineral development.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation use on 1,980 acres of WSA, although motorized recreation use levels would increase slightly as a result of displaced use from the designated wilderness portion of the WSA.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 1,980 acres of WSA.



IMPACTS ON WILDLIFE VALUES

In the nondesignated area, 600 acres (32.0% in nondesignated area or 2.0% in WSA) of crucial bighorn habitat, 600 acres (30.3% in nondesignated or 2.0% in WSA) of peregrine falcon suitable habitat, and 600 acres of suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.

Mining and associated roads would negatively affect these species because increased contacts with humans which often results in harassment, collection and direct killing. These species would be reduced or eliminated within 1/4 to 1/2 mile of the disturbed sites. This acreage, as well as the other 1,380 acres not being developed by the mining industry would be returned to other resource uses under the MFP decisions. Although this area would receive some protection from surface disturbing activities such as ORV use, road construction, mine development and exploration, these activities would nonetheless degrade wildlife habitat as previously discussed. While quantification is not possible, this would decrease the numbers and ranges of desert bighorn, peregrine falcon, desert tortoise and the Gila monster in this area.

Conclusion: A total of 600 acres of crucial bighorn habitat, suitable peregrine habitat, and suitable desert tortoise and Gila monster habitat would be destroyed by mineral development.

IMPACTS ON VEGETATIVE SALES

In this area, four tons of Mohave yucca would be harvested. This would eliminate 90 percent of the estimated seed producing Mohave yuccas in the harvest area.

Conclusion: A total of 120 acres of Mohave yucca would harvested.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development, motorized vehicle use, water catchment construction, range improvements and the excavation of an archaeological site.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of seven mines and the excavation of Bighorn Cave would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 1,380 acres developed for minerals and road access. Excavation of Bighorn Cave would impair the naturalness and remove certain cultural values from the area.

All Wilderness Alternative (Map 2-9)

The *All Wilderness* alternative would designate 29,190 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Mount Nutt WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because motorized vehicle use and the harvest of Mohave yucca would be excluded. However, under wilderness management, seven mines (on mining claims that had proven discoveries or located on nonfederal minerals) would be developed within the wilderness in a manner affecting wilderness values.

Five mines on public land and two mines on nonpublic mineral estate are anticipated whether or not the area is designated wilderness. Mining and four miles of access road construction would result in long-term loss of naturalness on 758 acres. The sights and sounds of mining and traffic would be visible and audible from surrounding areas; thus, a visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired on 3,000 acres (10.3%).

Periodic maintenance activities on the Oatman water pipeline and the Black Mesa Coal Slurry pipeline would be pipe replacement, repair and monitoring. At the Oatman water pipeline, the natural character of the area would not be impaired. Impacts to visitors' perceptions of naturalness and solitude would result only during the actual periods of maintenance. In the area of the Black Mesa Coal Slurry pipeline, impacts to the natural character of the surrounding area would be minor and sporadic. Impacts to visitors' perceptions of naturalness and solitude would occur only during the actual periods of maintenance.

Several existing range improvement projects would be maintained and two additional range improvement projects would be developed. The 3.5 miles of new fenceline would disturb three acres. The 1.8 miles of buried water pipeline would be constructed from an existing project and would disturb 2 acres. Access to these developments would not require road construction. Visitors' perceptions of naturalness would be lost or impaired over a total area of 20 acres.

Six existing wildlife water developments would be maintained and four additional wildlife water developments would be constructed. Each development would disturb 1/4 acre. Access to the sites would not require road construction. Natural character would thus be disturbed on a total of one acre. Design criteria would be such that no disturbance to visitors' perceptions of the wilderness qualities of naturalness or solitude would occur outside of this one acre total disturbance.

Bighorn Cave, an archeological site, would be excavated under minimum tool policy guidance. Disturbance to areas outside of the cave would be negligible. Visitors' perceptions of the wilderness qualities of naturalness and solitude would be temporarily disturbed in the area surrounding the cave, its access trail and temporary field camp during periods of excavation.

Elimination of a projected 950 acres of Mohave yucca harvest areas would benefit the wilderness values of naturalness, solitude and primitive recreation. Wilderness visitors' perceptions of naturalness would not be lost over an area of 1,200 acres.

Eliminating all motorized recreation use on 29,190 acres of wilderness would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not see or hear motorized users on the 3,520 areas of the WSA presently subject to vehicle use. All washes, river bottoms, and trails would be available for foot and horseback travel only.

Opportunities for solitude and primitive recreation that would be preserved by wilderness designation include skill-testing cross-country treks, photography and sightseeing.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across

84.7 percent of the WSA by precluding motorized vehicle recreation and the harvest of Mohave yucca.

IMPACTS ON MINERALS DEVELOPMENT

All Wilderness designation would exclude all mining from those areas lacking a valid discovery prior to the inclusion into the wilderness system, but would not stop two medium sized and four small open-pit mines and one medium sized underground mine developed on valid discoveries or private minerals. Nor would it prevent mineral exploration and development on 9,914 acres of private mineral estate.

Conclusion: The *All Wilderness* designation would limit exploration and mining in the designated areas, but would not stop the development of two medium sized mines and four small open-pit mines, and one medium sized underground mine on valid discoveries or private minerals. Nor would it prevent mineral exploration and development on 9,914 acres of private mineral estate.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use by closing 29,190 acres to vehicle use, thus displacing 1,200 VDY of motorized use. Nonmotorized recreation activities (day hiking, backpacking, horseback riding and rockhounding) on 29,190 acres within the area would benefit as a result, increasing from 1,200 to 2,800 VDY.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 29,190 acres by closing the area to and displacing 1,200 VDY of motorized recreation use.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 28,329 acres of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 22,960 acres (96.2% in WSA) of crucial bighorn habitat (including 8,000 acres of the 8,480 acre Mount Nutt lambing grounds), 25,920 acres (96.6% in WSA) of suitable peregrine falcon habitat, and 28,329 acres (97.0% in WSA) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would exclude bighorn from 758 acres (3.3% in WSA) of their crucial habitat and peregrine falcon from 758 acres (2.9% in WSA) of their suitable habitat. The loss of three desert bighorn is anticipated. The four miles of new roads along with the mines would directly destroy 758 acres (2.5% in WSA) of suitable desert tortoise and Gila monster habitat. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans which often result in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 28,329 acres of wildlife habitat. It will protect 22,960 acres of crucial bighorn habitat (this includes 8,000 acres of lambing grounds), 25,920 acres of suitable peregrine falcon habitat and 28,329 acres of suitable desert tortoise and Gila monster habitat from further significant surface-disturbing activities.

Mineral development would impair 758 acres of crucial desert bighorn habitat, suitable peregrine falcon, and suitable desert tortoise and Gila monster habitat.

IMPACTS ON VEGETATIVE SALES

Under the *All Wilderness* alternative 1,080 acres of Mohave yucca would be protected from harvest.

Denial of harvest within the WSA would have a slight economic impact on the local industry that harvests this plant for fertilizer. This impact would be small as there are many harvestable sections available outside the WSA.

Conclusion: A total of 1,080 acres of Mohave yucca would be protected from harvest.

IMPACTS ON CULTURAL RESOURCES

Impacts under this alternative are the same as under the *Proposed Action/Partial Wilderness* since all of the known cultural resources were included in the partial area recommended for designation.

No other resources would be impacted by this alternative.

Enhanced Wilderness Alternative

(Map 2-10)

The *Enhanced Wilderness* alternative differs from the *Proposed Action/Partial Wilderness* alternative in that 650 acres of land acquired, through exchanges, along the southern and northern boundaries of the WSA have been included in the 27,860 acres designated wilderness. A total of 1,980 acres would be returned to other resource uses.

The impacts analyzed would be the same as those described under the *Proposed Action/Partial Wilderness* alternative except for the following.

Area proposed for wilderness designation.

IMPACTS ON WILDLIFE VALUES

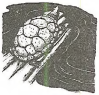
The *Enhanced Wilderness* alternative would protect 27,541 acres of wildlife habitat from further significant surface disturbing activities such as mineral exploration and ORV use. It would protect 20,700 acres (98.1% in Enhanced or 90.1% in WSA) of crucial bighorn habitat (includes 8,000 acres of the 8,480 acre Mount Nutt lambing grounds); 24,780 acres (98.8% in Enhanced or 95.6% in WSA) of suitable peregrine falcon habitat and 27,541 acres (98.5% in Enhanced or 94.3% in WSA) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would exclude bighorn from 400 acres (1.8% in Enhanced or 1.7% in WSA) of their crucial habitat and peregrine falcon from 300 acres (1.1% in Enhanced or 1.1% in WSA) of their suitable habitat. The loss of one desert bighorn is anticipated. The four miles of new roads along with the mines would directly destroy 400 acres (1.4% in Enhanced or 1.3% in WSA) of suitable desert tortoise and Gila monster habitat. Any of these species adjacent to roads and mines would be negatively affected from increased contacts with humans which often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *Enhanced Wilderness* alternative would protect 27,541 acres of wildlife habitat—20,700 acres of crucial bighorn habitat, 24,780 acres of suitable peregrine falcon habitat and 27,541 acres of suitable desert tortoise and Gila monster habitat.

Because of valid existing mining rights 156 acres of crucial bighorn habitat, 300 acres of suitable peregrine habitat and 156 acres of suitable desert tortoise and Gila monster habitat would be destroyed. The loss of one bighorn is anticipated.



AREA RECOMMENDED FOR USES OTHER THAN WILDERNESS

The *Enhanced Wilderness* alternative would not designate 1,980 acres as wilderness. Under the alternative, management actions, use and types and levels of impacts to wilderness qualities of naturalness, solitude, and primitive recreation, would be the same as those described under the *Proposed Action/Partial Wilderness* alternative.

No other resources would be impacted by this alternative.

No Wilderness Alternative (Map 2-9)

The *No Wilderness* alternative would return 29,190 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Mount Nutt WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, twelve mining exploration programs, seven anticipated mining ventures, the construction of two wildlife water developments, maintenance of a coal slurry pipeline and a small private water company water pipeline, construction of two range improvement projects and the harvest of 950 acres of Mohave yucca.

Twelve mining exploration programs would result in seven mining operations and their associated 7 miles of road construction which would impair the natural character of 1,063 acres. Visitors' perceptions of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 3000 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by the mining development. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and much improved vehicular access are the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline around each of the seven mines—a result of road building and mining.

Periodic maintenance activities on the Oatman water pipeline and the Black Mesa Coal Slurry pipeline would be pipe replacement, repair, and monitoring. Impacts to visitors' perceptions of naturalness and solitude would occur only during the actual periods of maintenance.

Several existing range improvement projects would be maintained and two additional range improvement projects would be developed. A total of 5 acres would be disturbed. Visitors' perceptions of naturalness would be lost or impaired over a total area of 20 acres.

Six existing wildlife water developments would be maintained and four additional wildlife water developments would be constructed. Natural character would be disturbed on a total of 1 acre. Due to visual design criteria, disturbance to a visitors' perceptions of naturalness would not occur outside of this one acre of total disturbance.

Bighorn Cave, an archeological site, would be excavated. Visitors' perceptions of naturalness and solitude would be disturbed over a 500 acre area surrounding the cave, its access trail and temporary field camp, but only during periods of excavation. Once the excavation is completed, the above named wilderness values would be restored to all but the immediate vicinity of the cave.

A projected 950 acres of Mohave yucca would be harvested along portions of the eastern boundaries of the WSA. Visitors' perceptions of naturalness would be impaired or lost over a larger area of 1,200 acres.

Because 29,190 acres would be open to vehicle use, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 3,520 acres (12%) of the WSA. Improved mine road access on 7 miles of new road would permit vehicles to reach portions of the WSA presently infrequently or never visited by motor-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent any adverse impacts to wilderness values. As a result, motorized vehicle use, mining, road construction, range improvement projects, Mohave yucca harvest, pipeline maintenance and archeological excavations would cause a loss or impairment of wilderness values of naturalness, solitude and primitive opportunities on 25.6% of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness/No Action* alternative, 29,190 acres of mineral estate would remain open to mineral entry under the mining laws allowing 1 large, 1 medium sized and 4 small open-pit mines, and 1 medium underground mine to be developed on Federal and private minerals.

Conclusion: The *No Wilderness/No Action* alternative would permit mineral entry onto all of the Federal minerals in the area and allow the exploration and development one large, one medium sized and four small open-pit mines, and one medium underground mine to be developed on Federal and private minerals.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation activities in the Mount Nutt WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative, 29,190 acres returned to multiple use management under MFP decisions. Although this area would receive some protection from road construction, ORV use, mine development and mine exploration. These activities would nonetheless degrade habitats of desert bighorn, peregrine falcon, desert tortoise and the Gila monster by increasing human activity and disturbance to wildlife. This often results in harassment, collection and direct killing. While quantification is not possible, this disturbance would decrease numbers and ranges of desert bighorn (22,960 acres of crucial habitat including 8,000 acres of the Mount Nutt lambing grounds), peregrine falcon (affecting 25,920 acres of suitable habitat), and the desert tortoise and Gila monster (affecting 29,190 acres of suitable habitat).

ORV use would increase with the same effects on wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 1,063 acres (4.5% in WSA) of crucial bighorn habitat, 960 acres (4.2% in WSA) of peregrine falcon suitable habitat and 1,063 acres (4.5% in WSA) of suitable desert tortoise and Gila monster habitat. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites.

Conclusion: Under the *No Wilderness* alternative 22,960 acres of crucial bighorn habitat, 25,920 acres of suitable peregrine falcon habitat, and 29,190 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface-disturbing activities such as ORV use, road construction and mine exploration and development.

Mine development would destroy 1,063 acres of crucial bighorn habitat, 960 acres of suitable peregrine habitat and 1,063 acres of suitable desert tortoise and Gila monster habitat.

IMPACTS ON VEGETATIVE SALES

Under the *No Wilderness* alternative 1,080 acres of Mohave yuccas would be harvested. This would temporarily remove an estimated 90 of the seed-producing Mohave yuccas in the harvest area. Under this alternative, the industry's planned harvest would be unaffected.

Conclusion: A total of 1,080 acres of Mohave yucca would be harvested.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide the additional protection of wilderness status. Vehicle travel, future mining activities and new road construction would increase negative impacts to the rock shelters and pictograph and petroglyph sites. In particular, the expansion of mining would directly impact an important rock shelter. Vehicles driving to the pictograph sites would increase the chances of vandalism to these sites. Future excavations at the Bighorn Cave site would be allowed without the restrictions of wilderness designation.

Conclusion: Bighorn Cave, a rock shelter, and pictograph and petroglyph sites would be subject to impairment from surface disturbance related to ORV use and mining. Future excavations at Bighorn Cave would be allowed without restrictions.

No other resources would be impacted by this alternative.

WARM SPRINGS
(AZ-020-028/029) — 114,800 acres

Proposed Action/Partial Wilderness
(Map 2-11)

The *Proposed Action/Partial Wilderness* for the Warm Springs WSA would designate 90,600 acres as wilderness and 24,200 acres for other resource uses. This alternative differs from the *All Wilderness* alternative in that boundary adjustments would remove a large wedge-shaped parcel of land in the south central portion of the WSA and extend a 0.5 mile cherrystemmed jeep trail up to the Warm Springs site. Both sides of this deleted area are bordered by jeep trails which access Warm Springs, a very important burro capture area.

Another deleted area in the east central portion of the WSA would align the boundary with the west side of a 9-mile segment of Sacramento Wash. This would make the boundary much more definable and would delete a small area east of (and including) the wash that would be difficult to manage as wilderness because of vehicle use in this broad, sandy drainage. A total of six cherrystems would be deleted. Three of these cherrystems access old mining activity and/or mine exploration scars and receive little vehicle use. Two deleted cherrystems access spring sites (Caliche Spring and Antelope/Alkali Springs). Both of these sites are very important to bighorn sheep and burro management. The *Wilderness Management Policy* would, however, allow for developed spring maintenance and ongoing burro capture activities to continue at these sites under the wilderness regime.

Under this alternative the following environmental consequences are anticipated.

Area proposed for wilderness designation.

IMPACTS ON WILDERNESS VALUES

The *Proposed Action/Partial Wilderness* alternative would provide long-term legislative protection to wilderness values on 90,600 acres of the WSA. Wilderness values would benefit in certain areas because motorized vehicle use, the harvest of Mohave yucca and some mining activity would be excluded. Three mines on claims with valid existing rights and two mines on privately owned mineral estate would be developed within the wilderness in a manner affecting wilderness values; however this mining would occur whether or not the lands were designated.

Three mining operations on public land, two mines on non-federal mineral estate would cause extensive and long-term surface disturbances that would impair the natural character of 455 acres. Visitors' perception of naturalness would also be lost or impaired over a larger area of 3,200 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic. These levels of impacts are somewhat different from what would occur if this area were not designated as wilderness. Under the *Proposed Action/Partial Wilderness* alternative, surface disturbance would be 1,300 acres less than under a *No Wilderness* alternative. There would, however, be no increase in the overall amount of surrounding acreage impaired by the sights and sounds of mining and access roads.

Several existing range improvement projects would be maintained and an existing reservoir and 3.5 miles of existing vehicle way would require occasional work with heavy equipment. Two additional projects would be developed. Six and one-half miles of fenceline would disturb 6 acres. An exclosure fence/burro trap would be constructed in the vicinity of an existing reservoir. These additions would disturb one acre. Visitors' perception of naturalness would be lost or impaired over a total area of 40 acres.

Nine existing wildlife water developments would be maintained and five additional developments would be constructed. Access to these sites would not require road construction. Each development would disturb 1/4 acre. Natural character would thus be disturbed on a total of 1¼ acres. Design criteria would be such that no disturbance of visitors' perception of the wilderness qualities of naturalness and primitive recreation would occur outside of this 1¼ acres of total disturbance.

Elimination of a projected 2,930 acres of *Yucca schidigera* harvest areas would benefit the wilderness values of naturalness, solitude and primitive recreation. Wilderness visitors would not encounter an area where most of the Yucca above three feet in height had been removed and the surface extensively disturbed because of cross-country use of trucks and other harvest equipment. Visitors' perception of naturalness would not be lost over an area of 4,000 acres.

Eliminating all motorized recreation use on 90,600 acres of wilderness would benefit the wilderness values of solitude and primitive recreation. Wilderness visitors would not see or hear vehicles on the 8,000 acres of the designated portion of the WSA presently open. All washes and trails would be available for foot and horseback travel only.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would maintain wilderness values on 92.5 percent of the designated portion of the WSA by preventing adverse impacts to naturalness, solitude, and primitive and unconfined recreation from motorized vehicle use, some mining activity and the harvest of Mohave yucca.

IMPACTS ON MINERALS DEVELOPMENT

Under the *Proposed Action/Partial Wilderness*, 90,600 acres of mineral estate would be withdrawn from mineral entry, but in spite of the wilderness designation, valid existing rights and private minerals would allow the development of three open-pit mines and two underground mine within the designated area.

Conclusion: The *Proposed Action/Partial Wilderness* would limit exploration projects, but allow the development of five mines within the designated area.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 90,600 acres by closing this acreage to motorized use and displacing 450 VDY of motorized recreation use to the undesignated portions of the WSA and to nearby public lands. Nonmotorized recreation activities that would benefit from these actions include day hiking, sightseeing, overnight backpacking, wildlife observation and photography. Nonmotorized recreation would increase from 250 VDY to 700 VDY.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 90,600 acres by displacing 450 VDY of motorized recreation use to nearby public lands.

IMPACTS ON WILDLIFE VALUES

The *Proposed Action/Partial Wilderness* would protect 89,745 acres (99.0% in Proposed Action; 78.1% in WSA) of wildlife habitat from further significant surface-disturbing activities such as mineral exploration and ORV use. It would protect 66,985 (98.7% in Proposed Action; 87.2% in WSA) acres of crucial bighorn habitat (includes all but 475 acres of the 7,040 acre Columbine Springs lambing grounds); 5,120 acres (100%) of suitable peregrine falcon habitat and 89,745 acres (99.0% in Proposed Action; 78.1% in WSA) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would destroy 455 acres (0.7% in Proposed Action; 0.4% in WSA) of bighorn crucial habitat and 455 acres (0.5% in Proposed Action; 0.4% in WSA) of suitable desert tortoise and Gila monster habitat. Any of these species adjacent to roads and mines would be negatively affected because increased contacts with humans often results in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites. The loss of two desert bighorn is anticipated.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease alternative because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *Proposed Action/Partial Wilderness* would protect 89,745 acres of wildlife habitat—66,985 acres of crucial bighorn habitat, 5,120 acres of suitable peregrine habitat and 89,745 acres of suitable desert tortoise and Gila monster habitat.

Mineral development would impair 455 acres of crucial bighorn habitat and 455 acres of suitable desert tortoise and Gila monster habitat. The loss of two bighorn is anticipated.

IMPACTS ON VEGETATION VALUES

Under the *Proposed Action/Partial Wilderness* 2,930 acres of Mohave yucca would be protected from harvest. Denial of harvest within the WSA would have a slight economic impact the local industry that harvests this plant for fertilizer. This impact would be small as there are many harvestable sections available outside the WSA.

Conclusion: A total of 2,930 acres of Mohave yucca would be protected from harvest.

IMPACTS ON CULTURAL RESOURCES

This alternative would provide the additional protection of wilderness status. Vehicle travel, future mining activity and new road construction would be prohibited or limited. Petroglyphs on small boulders would be less likely removed and/or vandalized. Temporary camp sites would receive protection from surface disturbance by ORVs and some mining through wilderness designation. None of the planned BLM resources actions except, perhaps, the increased visitor use would directly impact the cultural resources.

Conclusion: Petroglyphs and temporary camp sites would be better protected.

Area recommended for uses other than wilderness

IMPACTS ON WILDERNESS VALUES

Wilderness values on the 24,200-acre portion of the WSA returned to other resource uses would not receive the legislative protection provided by wilderness designation. Over the long term, wilderness values would experience adverse impacts from motorized vehicle use.

Solitude and primitive recreation opportunities would also deteriorate in the area because motorized traffic would continue. The sights and sounds of motorized recreation use on these areas would lessen the quality of solitude and primitive recreation opportunities over an area of 6,000 acres.

Conclusion: Adverse impacts to wilderness values would not be prevented on the portion of the WSA not designated wilderness. Consequently, motorized vehicle use would impair wilderness values on 32.4 percent of the undesignated portion of the WSA.

IMPACTS ON MINERAL DEVELOPMENT

The *Proposed Action/Partial Wilderness* alternative would allow mineral entry on 24,200 acres of public land. As a result, there would be exploration programs in the WSA and no mining developments would be denied in the area.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would allow development of potential mines on 24,200 acres of public land.

IMPACTS ON RECREATION USE

The *Proposed Action/Partial Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation use on 24,200 acres of the WSA, although motorized recreation use levels would increase because of displacement from the wilderness portion of the area.

Conclusion: The *Proposed Action/Partial Wilderness* alternative would not change opportunities for recreation use on 24,200 acres of WSA.

IMPACTS ON WILDLIFE VALUES

In this area, 24,200 acres of wildlife habitat would be returned to multiple use management under MFP decisions. This area would receive some protection from road construction, ORV use, mine development and mine exploration. However, these activities would degrade habitats of desert bighorn, desert tortoise and the Gila monster by increasing human activity and disturbance to wildlife—often resulting in harassment, collection and direct killing. While quantification is not possible, this disturbance would decrease numbers and ranges of desert bighorn (8,960 acres of crucial habitat), and the desert tortoise and Gila monster (18,500 acres of suitable habitat).

ORV use would increase with the same effects on wildlife as discussed above.

Conclusion: In this area 24,200 acres of wildlife habitat including 8,960 acres of crucial bighorn habitat, and 24,200 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would degrade because of increased surface disturbing activities such as ORV use, road construction and mine exploration and development.

No other resources would be impacted by this alternative.

Burros in water trap at Warm Springs — Warm Springs WSA.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values on portions of the WSA would be disturbed by mineral development, motorized vehicle use, wildlife water catchment construction and grazing developments.

A total of 1,200 acres of potential mineral developments would be denied.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The development of five mines would disturb the naturalness of the area in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined would be used up and lost to future use. Wilderness values would be impaired on 455 acres developed for minerals and road access.

All Wilderness Alternative (Map 2-12)

The *All Wilderness* alternative would designate 114,800 acres as wilderness.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Warm Springs WSA would provide long-term legislative protection for its wilderness values. Wilderness values would benefit in certain areas because some anticipated mining activity, motorized vehicle use and harvest of Mohave yucca would be excluded. Four mining operations on mining claims with valid existing rights and proven discoveries, and two mines on non-federal mineral estate would be developed within the wilderness in a manner affecting wilderness values; however, this use would would happen whether designated or not.

Four mining operations on public land, two mines on nonfederal mineral estate and their associated 10 miles of road construction would cause extensive and long-term surface disturbances that would impair the natural character of 957 acres. Visitors' perception of naturalness would also be lost or impaired over a larger area of 5,200 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic. The number of projected mines and surface-disturbed acres are not the same under the *Proposed Action/Partial Wilderness* alternative and the *All Wilderness* alternative, therefore, the overall amount of surrounding acreage impaired by the sights and sounds of mining and mine access roads is somewhat larger under the *All Wilderness* alternative. This difference arises because a projected mine within the *Proposed Action/Partial Wilderness* alternative boundary includes 450 acres of additional surrounding visually impaired terrain outside of this alternative—acreage that is included in the overall total for the *All Wilderness* alternative.

Several existing range improvement projects would be maintained. Maintenance of an existing reservoir and 3.5 miles of existing vehicle way would require occasional work with heavy equipment. Two additional projects would be developed. Six and one-half miles of fenceline would disturb 6 acres. An exclosure fence/burro trap would be built in the vicinity of an existing reservoir. These additions would disturb 1 acre. Visitors' perception of naturalness would be lost or impaired over a total area of 40 acres.

Nine existing wildlife water developments would be maintained and five additional wildlife water developments would be constructed. Access to these sites would not require road construction. Each development would disturb 1/4 acre. Natural character would thus be disturbed on a total of 1¼ acres. Design criteria would be such that no disturbance to visitors' perception of the wilderness qualities of naturalness and primitive recreation would occur outside of this 1¼ acres of total disturbance.

Elimination of a projected 2,930 acres of Mohave Yucca harvest areas would benefit the wilderness values of naturalness, solitude and primitive recreation. Wilderness visitors would not encounter an area where most of the yucca above three feet in height have been removed and the surface extensively disturbed due to cross-country use of trucks and other harvest equipment. Visitors' perception of naturalness would not be lost over an area of 4,000 acres.

Eliminating all motorized recreation use on 114,800 acres would benefit the wilderness values of solitude and primitive recreation on the 14,000 acres now used by ORVs. Wilderness visitors would not see or hear motorized users in the 9.6 percent of the WSA presently affected by motorized use.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across 93.3 percent of the WSA by precluding motorized vehicle recreation, some mining activity and the harvest of Mohave Yucca.

IMPACTS ON MINERALS DEVELOPMENT

The *All Wilderness* designation would exclude all future exploration and mining from 114,800 acres, but would not stop development of 1 large, 2 medium sized and 2 small open-pit mines and 1 small underground mine on valid discoveries or private minerals within the wilderness area.

Conclusion: The *Proposed Action/All Wilderness* would deny the exploration projects, but would allow the development of four open-pit mines and two underground mine disturbing approximately 957 acres. The 58,079 acres of private mineral estate would remain open for mineral exploration and development.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use by closing 114,800 acres to vehicle use, thus displacing 900 VDY of motorized use. Nonmotorized recreation activities (day hiking, backpacking, wildlife observation and photography) on 114,800 acres within the area would benefit as a result.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation on 114,800 acres, and displace 450 VDY of motorized use.

IMPACTS ON WILDLIFE VALUES

The *All Wilderness* alternative would protect 113,395 acres (98.7% of WSA) of wildlife habitat from further significant surface-disturbing activities, such as mineral exploration and ORV use. It would protect 75,395 acres (98.1%) of crucial bighorn habitat; this includes all of the 7,040 acre Columbine Springs lambing grounds. It would protect 5,120 acre (100%) of suitable peregrine falcon habitat and 113,395 acres (98.7%) of suitable habitat for the desert tortoise and Gila monster.

Mineral development and the subsequent increase in human activity would destroy 957 acres (1.8%) of bighorn crucial habitat and 957 acres (1.2%) of suitable desert tortoise and Gila monster habitat. Any of these species adjacent to roads and mines would be negatively affected because of increased contacts with humans—often resulting in harassment, collection and direct killing. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites. The loss of two desert bighorn is anticipated.

Although there would be an increase in visitor use days, recreational impacts to wildlife are expected to decrease because recreational travel would be restricted to foot travel. Therefore, human contacts resulting in disturbances to wildlife would be minimal.

Conclusion: The *All Wilderness* alternative would protect 113,395 acres of wildlife habitat—75,395 acres of crucial bighorn habitat (including all of the 7,040 acre lambing grounds); 5,120 acres of suitable peregrine habitat and 113,395 acres of suitable desert tortoise and Gila monster habitat—from further significant surface-disturbing activities.

Mineral development would impair 957 acres of crucial bighorn habitat and 957 acres of desert tortoise and Gila monster habitat would be destroyed. The loss of two bighorn is anticipated.

IMPACTS ON VEGETATION VALUES

Under the *All Wilderness* alternative 2,930 acres of Mohave yucca would be protected from harvest. Denial of harvest within the WSA would have a slight economic impact on the local industry that harvests this plant for fertilizer. This impact would be small as there are many harvestable lands available outside the WSA.

Conclusion: A total of 2,930 acres of Mohave yucca would be protected from harvest.

IMPACTS ON CULTURAL RESOURCES

This alternative is the same as *Proposed Action/Partial Wilderness* since all of the known cultural resources were included in the partial area recommended for designation.

No other resources would be impacted by this alternative.

Enhanced Wilderness Alternative

(Map 2-13)

The *Enhanced Wilderness* alternative differs from the *Proposed Action/Partial Wilderness* alternative in that 620 acres acquired through exchange in the northeastern portion of the WSA has been included in the 91,440 acres designated wilderness. The 24,200 acres would be returned to other resource uses. The impacts analyzed would be the same as described under the *Proposed Action/Partial Wilderness* alternative.

Area recommended for uses other than wilderness.

The *Enhanced Wilderness* alternative would not designate 24,200 acres as wilderness. Under this alternative, management actions, use, and types and levels of impacts to the wilderness qualities of naturalness, solitude, and primitive recreation, and to other resource uses would be the same as described under the *Proposed Action/Partial Wilderness* alternative.

No Wilderness Alternative (Map 2-12)

The *No Wilderness* alternative would return 114,800 acres to other resource uses.

IMPACTS ON WILDERNESS VALUES

None of the Warm Springs WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts from motorized vehicle use, eleven mining exploration programs, eight anticipated mining ventures, construction of two range improvement projects, construction of five wildlife water developments and the harvest of Mohave yucca.

Eleven mining exploration programs, the resulting eight mining operations would impair the natural character of 1,557 acres. Visitors' perception of naturalness and the quality of their solitude opportunities would be essentially lost or impaired over a larger area of 7,700 acres—surrounding lands where visitors would be directly subject to the sights and sounds of mining, construction, roads and traffic.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by the mining development. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of development and much improved vehicular access are the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would experience a considerable decline around each of the eight mines as a result of road building and mining.

Several existing range improvement projects would be maintained. Maintenance of an existing reservoir and 3.5 miles of existing vehicle way would require occasional work with heavy equipment. Two additional projects would be developed. Six and one-half miles of fenceline would disturb six acres. An exclosure fence/burro trap built near an existing reservoir would disturb one acre. Visitors' perception of naturalness would be lost or impaired over a total area of 40 acres.

Nine existing wildlife water developments would be maintained and five additional wildlife water developments would be constructed. Access to these sites would not require road construction. Each development would disturb 1/4 acre. Natural character would thus be disturbed on a total of 1¼ acres. Design criteria would be such that no disturbance to visitors' perception of the wilderness qualities of naturalness and primitive recreation would occur outside of this 1¼ acres of total disturbance.

A projected 2,930 acres of Mohave yucca would be harvested along portions of the eastern boundaries of the WSA. Visitors' perceptions of naturalness would be impaired or lost over a larger area of 4,000 acres.

Because 114,800 acres would be open to vehicle use, the sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities across 14,000 acres of the WSA. Improved mine road access on 10 miles of new road would permit vehicles to reach portions of the WSA infrequently or never visited by motor-dependent recreationists. Nonmotorized recreationists would be likely to encounter vehicles, thus reducing the quality of the back country experience.

Conclusion: The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use, mining and associated road construction, range improvement projects and Mohave yucca harvest would cause a loss or impairment of the wilderness values of naturalness, solitude and primitive recreation opportunities on 22.4 percent of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *No Wilderness* alternative, all lands would remain open to mineral entry, allowing development of one large, three medium sized and two small open-pit mines, and one large and one small underground mine.

Conclusion: The *No Wilderness* alternative would permit mineral entry onto all of the federal minerals in the area and allow the exploration and development of eight mines.

IMPACTS ON RECREATION USE

The *No Wilderness* alternative would not change existing opportunities for motorized and nonmotorized recreation activities occurring in the Warm Springs WSA.

Conclusion: Opportunities for recreation use would remain unchanged under the *No Wilderness* alternative.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative 114,800 acres would be returned to multiple use management under MFP decisions. This area would receive some protection from road construction, ORV use, mine development and mine exploration. However, these activities would degrade habitats of desert bighorn, peregrine falcon, desert tortoise, Gila monster and Goldroad Forticellia by increasing human activity and disturbance to wildlife—often resulting in harassment, collection and direct killing. While quantification is not possible, this disturbance would decrease numbers and ranges of desert bighorn (76,800 acres of crucial habitat including 7,040 acres of the Columbine Springs lambing grounds), peregrine falcon (5,120 acres of suitable habitat), and the desert tortoise and Gila monster (114,800 acres of suitable habitat). The acreage of suitable habitat for the Goldroad Forticellia is unknown.

ORV use would increase and motorized vehicles would have the same affects to wildlife as discussed above.

Mine development and the subsequent increase in human activity would destroy 1,557 acres (2.0%) of crucial bighorn habitat and 1,557 acres (1.3%) of suitable desert tortoise and Gila monster habitat. These species are expected to be reduced or eliminated within 1/4 to 1/2 mile of disturbed sites. The loss of two desert bighorn is anticipated.

Conclusion: Under the *No Wilderness* alternative 76,800 acres of crucial bighorn habitat (includes 7,040 acres of lambing grounds), 5,120 acres of suitable peregrine falcon habitat, and 114,800 acres of suitable desert tortoise and Gila monster habitat would be returned to multiple use management under the MFP decisions. These habitats would be degraded because of increased surface-disturbing activities, such as ORV use, road construction and mine exploration and development.

Mine development would destroy 1,557 acres of crucial bighorn habitat and 1,557 acres of suitable desert tortoise and Gila monster habitat. The loss of two desert bighorn is anticipated.

IMPACTS ON VEGETATION VALUES

Under the *No Wilderness* alternative 2,930 acres of Mohave yucca would not be protected from harvest. This would remove an estimated 90 percent of the seed producing Mohave yuccas in the harvest area. Under this alternative the industry's planned harvest would be unaffected.

Conclusion: A total of 2,930 acres of Mohave yucca would be harvested.

IMPACTS ON CULTURAL RESOURCES

This alternative would not provide additional protection for the temporary camp sites and petroglyphs. Vehicle travel, future mining activity and new road construction would increase negative impacts to these sites. Some of the petroglyphs are on very small boulders which could be easily loaded into a vehicle.

Conclusion: Petroglyphs and temporary camp sites would not be protected.

No other resources would be impacted by this alternative.

SOUTH BRADSHAWS EAST WSA

(AZ-020-84A) 640 acres

Proposed Action/No Wilderness

Under the *Proposed Action/No Wilderness* the South Bradshaws WSA's 640 acres would be returned to other resource uses.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness values under this alternative would not receive protection provided by designation. In the long term, wilderness values would be degraded by the anticipated mining activity and road construction. The exploration, mining activities and .5 mile of road construction would impair the natural character and vegetation of approximately 10 acres. However, the entire area would be affected since the anticipated mining location is visible from the entire WSA. A visitor's perception of naturalness and the quality of solitude opportunities would be lost or impaired over the entire 640 acres. Currently, the area may be reached by unmaintained 4 WD trails and a 0.5-mile walk to the boundary.

Long-term visual impacts to naturalness would continue even after mining and mine site reclamation were completed. Since the unit is dominated by steep, rugged slopes with shallow soils and low rainfall, the rehabilitative processes would be very slow at best. Road construction would create long-term visual impacts to the area.

The existing quality of primitive recreation opportunities would decline over the entire WSA. The entire unit would be subject to the sights and sounds of mineral development and improved vehicular access. Hiking and sightseeing opportunities would decline in the WSA as a result of road construction and mineral development. Improved mine access would allow vehicles to enter portions of the WSA never visited by motorized recreationists.

Conclusion: The impairment of naturalness, solitude and primitive recreation would occur over the entire WSA (640 acres). The impact from the anticipated mineral development would deteriorate wilderness values over the entire WSA.

IMPACTS ON MINERAL DEVELOPMENT

Under this alternative the 640 acres of federal mineral estate would remain open to mineral entry under the mining laws. The entire unit (640 acres) has a moderate potential for development. An exploration program and one small mine would be developed in the area.

Conclusion: This alternative would allow mineral development on federal minerals within the unit—one exploration program and one small mine.

IMPACTS ON RECREATION USES

This alternative would allow motorized recreation to expand into the WSA on a new access road to the anticipated mining activity. The expected access development would slightly increase motorized recreation in the unit, while slightly decreasing the nonmotorized recreation use.

Conclusion: Under this alternative overall recreation use would remain at 100 visitor days/year. The types and patterns of recreation use (motorized vs. nonmotorized) would shift as access to the mineral activity is developed.

IMPACTS ON WILDLIFE VALUES

This alternative would allow mineral exploration and development, resulting in the loss of approximately two percent (10 acres) of the unit's chaparral habitat. This would not be significant since the area does not support large numbers of wildlife. In addition, adjacent chaparral habitat outside the WSA contains higher quality habitat. The unit's loss of 10 acres would not significantly affect the potential for the state-listed Gilbert's skink to exist. Other forms of wildlife (mule deer, coyote, bobcat) would migrate temporarily out of the area proposed for mineral development to adjacent areas.

Conclusion: This alternative would allow mineral development to reduce the area's chaparral habitat by two percent or 10 acres but would not significantly impact wildlife in the long term.

IMPACTS ON CULTURAL VALUES

One potential *National Register* quality site would be in danger of damage caused by mining activity, road construction, and ORV use. The increased vehicle access and mining activity would threaten cultural resources with erosion and vandalism.

Conclusion: Vandalism and erosion would endanger one potential *National Register* site because of increased mining activity and motorized access.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

The naturalness of the entire area would be disturbed by mining and increased motorized recreation use.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Mining and associated activities would impair the area's naturalness in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined in the one new mine would be used up and lost to future uses. Wilderness values of naturalness and opportunities for solitude and primitive recreation would be impaired on the 10 acres developed for minerals.

All Wilderness

All 640 acres of the South Bradshaws WSA would be designated as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of this unit would provide long-term legislative protection for its wilderness values. Precluding mineral exploration and development and road construction would maintain the WSA's existing wilderness values on 640 acres. The area's naturalness, quality of solitude and primitive recreation opportunities would be preserved. Wilderness visitors would not hear or see motorized users in the southwestern portion of the WSA. The perception of naturalness and the scenic character of the unit would be preserved and maintained. In addition, the WSA's wilderness values have been greatly enhanced by the Castle Creek Wilderness Area which forms the northern boundary of the WSA in the Prescott National Forest.

Conclusion: Designation of the South Bradshaws WSA would preserve wilderness values over the entire WSA by precluding mineral development. The unit's opportunities for solitude and primitive recreation, as well as the scenic character of the area, would be enhanced by the adjacent Castle Creek Wilderness Area in the Prescott National Forest.

IMPACTS ON MINERAL DEVELOPMENT

Under the *All Wilderness* alternative 640 acres of federal mineral estate would be withdrawn from mineral entry under the mining laws. The entire WSA is considered to have moderate mineral potential. Wilderness designation would preclude an exploration program and the development of one small mine in the southwest portion of the unit.

Conclusion: The *All Wilderness* alternative would preclude one exploration program and the development of one small mine.

IMPACTS ON RECREATION USES

This alternative would ensure that the southwest portion of the WSA is not made available for mineral development. The unit would continue to be protected from the impacts of road construction and the resulting motorized access to the WSA. Nonmotorized recreation use is expected to increase by 50 percent to 150 visitor days/year. The projected increase is the result of the increased awareness of the WSA and its proximity to the Castle Creek Wilderness Area in the Prescott National Forest.

Conclusion: Wilderness designation under this alternative would increase nonmotorized recreation use by 50 percent to 150 visitor days/year as a result of increased wilderness awareness.

IMPACTS ON WILDLIFE VALUES

This alternative would prevent mining-related disturbance on two percent (10 acres) of the chaparral habitat within the WSA. Thus habitat would be protected for the state-listed Gilbert's skink as well as for mule deer, coyote and other existing wildlife species.

Conclusion: Designation would prevent the loss of 10 acres of chaparral habitat.

IMPACTS ON CULTURAL VALUES

The elimination of motorized access, mining activity and road construction would benefit one potential *National Register* quality site in this WSA. These restrictions would reduce the potential for vandalism and erosion to occur on these cultural resources.

Conclusion: One potential *National Register* quality site would benefit by the elimination of motorized access and the resulting vandalism and erosion.

No other resources would be impacted by this alternative.

SIERRA ESTRELLA

(AZ-020-160) 14,830 Acres

Proposed Action/All Wilderness

The *Proposed Action/All Wilderness* for the Sierra Estrella WSA would designate 14,830 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Sierra Estrella WSA would provide long-term legislative protection to its wilderness values by limiting or prohibiting land uses not compatible with wilderness preservation. Wilderness values would benefit in certain areas because anticipated road and right-of-way construction, motorized vehicle use and most mining would be excluded.

Eliminating all motorized recreation use would benefit the wilderness value of solitude. Wilderness visitors would not see or hear motorized users in the 25 percent of the WSA presently affected by such use.

Wilderness designation would maintain the existing caliber and array of primitive recreation opportunities, including hiking, camping, backpacking and animal sightseeing. The scenic features and largely natural setting preserved by wilderness would continue to provide an area for increasing numbers of primitive recreationists.

One small sized mine (T. 3 S., R. 1 E., section 24) would be developed within the WSA in a manner affecting wilderness values, whether or not the area is designated wilderness. About 5.0 acres of surface disturbance would result from mining and a long-term loss of naturalness is likely on affected lands. The sights and sounds of mining and traffic would be noticeable from surrounding areas; thus, a visitor's perception of naturalness and the quality of solitude and primitive recreation opportunities would be lost or impaired on 700 acres. Reclamation of disturbed areas by machine and nature would lessen their noticeability to visitors.

Conclusion: Wilderness designation would maintain the existing wilderness values of naturalness, solitude and primitive recreation on 96 percent of the WSA by precluding much potential new mining and right-of-way development. Potential mining on claims with proven discoveries would impair wilderness values on four percent of the WSA, but would not influence wilderness values elsewhere.

IMPACTS ON MINERAL RESOURCES

This alternative would withdraw 14,830 acres of federal mineral estate from mineral entry under the mining laws (subject to valid existing rights), including 3,210 acres of high potential, and 4,030 acres of moderate mineral potential. Wilderness designation eliminate 13 exploratory and three small mine operations. One small mine operation would be developed.

Conclusion: This alternative would deny 13 exploratory and three small mine operations, but one small mine operation would be allowed.

IMPACTS ON RECREATION USES

Designation would close the entire 14,830 acres, including 2.5 miles of vehicle ways to ORV use. Hiking, hunting and rock collecting would continue. Current recreation uses amount to about 1,200 motorized and 700 nonmotorized visitor days/year.

Because Sierra Estrella WSA is near a major urban area, nonmotorized use would increase to 1,000 VDY. Most of the vehicle-based users displaced as a result of wilderness designation would find comparable terrain and recreational opportunities on nearby public land. Projected changes in visitor use levels under designation would not impair public lands within the WSA or nearby.

Conclusion: Designation under this alternative would change the types of recreation use taking place in the WSA from a mix of motorized and nonmotorized recreation to all nonmotorized recreation.

IMPACTS ON WILDLIFE VALUES

Under this alternative 1,200 acres of desert tortoise habitat would be degraded by limited mining activity and increased nonmotorized visitor use. Approximately 45 adult tortoise would be lost due to habitat degradation, pet collection and wanton vandalism.

Approximately 1,500 acres of bighorn sheep habitat would be degraded by limited mining activity and increased nonmotorized visitor use. The bighorn sheep population would be reduced to 10 to 15 adult resident bighorn with a loss of five adults.

Under the proposed action, degradation of 4,500 acres of desert tortoise habitat and an accompanying loss of 135 adults would be avoided. Degradation of 3,000 acres of bighorn sheep habitat and an accompanying loss of five adult sheep would be avoided. Unquantifiable losses of other species (golden eagle, prairie falcon, Cooper's hawk, mule deer, javelina, mountain lion) would be avoided as well.

Conclusion: This alternative would prevent the degradation of 79 percent of the desert tortoise habitat and the loss of 135 adults and also prevent the degradation of 75 percent of bighorn sheep habitat and the loss of five adult sheep.

IMPACTS ON CULTURAL RESOURCES

Under wilderness designation, mineral development, road construction and upgrading and vehicle access would be restricted or prohibited. The elimination of vehicle-based visitation would reduce the potential for vandalism to this site. Therefore, the one *National Register* quality site in this WSA would benefit under wilderness designation.

Conclusion: Designation would reduce the potential for vandalism to a *National Register* quality site because of the elimination of vehicle-based visitation and the restrictions on mining activities, road upgrade and road construction.

IMPACTS ON LAND USES

There would be no lands actions allowed in the WSA; therefore, would be no development of communication sites on Butterfly Peak and the existing temporary site would be removed.

Conclusion: This alternative would not allow new communication sites to be developed and the existing site would be removed.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

A total of 1800 acres of crucial wildlife habitat and the naturalness of the area would be disturbed by mining.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Mining and associated activities would impair the area's naturalness in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined in the two new mines would be used up and lost to future uses. Wilderness values of naturalness and opportunities for solitudes and primitive recreation would be impaired on 8.5 acres developed for minerals.

No Wilderness No Action

The *No Wilderness/No Action* alternative for the Sierra Estrella WSA would designate none of the 14,830 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

None of the Sierra Estrella WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience adverse impacts by anticipated road and rights-of-way construction and motorized vehicle use.

The sights and sounds of motorized recreation use would lessen the quality of solitude and primitive recreation opportunities on 4,300 acres of the WSA. Vehicles would travel improved roads, particularly within the WSA's southwestern portion. Visitor encounters with vehicles would be mostly on lands adversely influenced by mining and rights-of-way.

Conclusion: Surface disturbances associated with mining and rights-of-way construction in the WSA's southwestern quarter and western area would result in direct or cumulative loss or impairment of wilderness values of naturalness, primitive recreation and solitude on 25 percent of the WSA. Wilderness values in the rugged interior hills (75 percent of the WSA) would remain unaffected by nondesignation because no development is anticipated.

IMPACTS ON MINERAL RESOURCES

Under this alternative, 14,830 acres of federal mineral estate would be open to entry under the mining and leasing laws. The area includes 3,210 acres of high potential and 4,030 acres of moderate mineral potential. There would be 13 exploratory and four small mines developed on federal mineral estate.

Conclusion: This alternative would allow mineral entry on the federal mineral estate, thus allowing 13 exploratory and four small mine operations to be developed.

IMPACTS ON RECREATION USE

Under this alternative, the Sierra Estrella WSA would remain open to recreational uses (hunting, hiking and rock collecting). Although not restricted, ORV use would be confined to the existing 2.5 miles of vehicle ways and to dry washes because of the ruggedness of the terrain.

An increase from 1,200 to 1,500 motorized and from 300 to 500 nonmotorized VDY is projected within the next 25 years.

Conclusion: The *No Wilderness* alternative would allow motorized use to increase by 25 percent and nonmotorized to increase by 67 percent.

IMPACTS ON WILDLIFE VALUES

Under the *No Wilderness* alternative 5,700 acres of desert tortoise habitat would be degraded and 180 adult tortoise would be lost; also, 3,500 acres of desert bighorn habitat would be degraded and desert bighorn population would be reduced to five or ten individuals with a loss of ten adult sheep.

Unquantified loss of other species also would result, although these declines would be greater than under the proposed action. These losses would be caused from increased mining activities and visitor use.

Conclusion: The *No Wilderness* alternative would allow mining and increased visitor use to degrade desert tortoise and bighorn sheep habitat, causing the loss of 180 adult tortoise and ten adult sheep.

IMPACTS ON CULTURAL RESOURCES

Visitor use would increase because of improved access and ORV use and the one known *National Register* quality site would be threatened by increased potential for vandalism.

Conclusion: Nondesignation would result in an increased potential for vandalism on the one known *National Register* quality site because of the higher vehicle-based visitation rate.

IMPACTS ON LAND USES

Lands actions would be allowed in the area, including the development of communication sites on Butterfly Peak. The existing temporary site would be allowed to remain and six to ten communication sites would be developed.

Conclusion: The existing temporary communication site would remain and six to ten anticipated communication sites would be developed.

No other resources would be impacted by this alternative.

RAGGED TOP WSA

(AZ-020-197) 4,460 acres

Proposed Action/No Wilderness

Under the *Proposed Action/No Wilderness*, the Ragged Top WSA's 4,460 acres would be returned to other resource uses.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

None of the Ragged Top WSA's wilderness values would receive legislative protection provided by wilderness designation. Over the long term, wilderness values in certain areas would experience degradation from the anticipated mineral development, road construction and increased motorized vehicle use.

The mineral development and associated road construction would impair the natural character of approximately 20 acres in the southwestern portion of the WSA. A visitor's perception of naturalness and the quality of solitude opportunities would be impaired further over a larger area of approximately 750 acres (17 percent of the WSA)—surrounding lands where visitors would be directly subjected to the sights and sounds of mining, road construction and increased motorized traffic.

The unit's quality and array of primitive recreation opportunities would decline significantly in areas adversely affected by mineral development. The loss of naturalness and scenic features in the southwest portion of the WSA from mineral development would further degrade wilderness experience opportunities in that portion of the unit. Improved and new mining access roads would permit vehicles to traverse portions of the WSA where no roads currently exist. The northern and eastern portions of the unit (3,000 acres) would not be subject to sights and sounds of the anticipated mineral development. Nonmotorized recreationists would be likely to encounter vehicles throughout the entire WSA, thus reducing the quality of the backcountry experience. The unit's special features would be subject to further degradation by nondesignation of this unit.

Conclusion: The anticipated mining activity and increased motorized vehicle use would result in the further deterioration of wilderness values over 21 percent of the WSA. The remainder of the unit would not be greatly affected by the mineral development. This area would be subject to increased motorized recreation resulting in a significant decrease in wilderness experience opportunities.

IMPACTS ON MINERAL DEVELOPMENT

Under this alternative, the 4,460 acres of federal mineral estate would remain open to mineral entry under the mining laws. The entire WSA is considered to have a moderate potential for minerals. There would be two exploration programs and two small mines developed within the WSA boundary.

Conclusion: This alternative would allow mineral entry on 4,460 acres of the WSA. This would allow two exploration programs and two small mines.

IMPACTS ON RECREATION USES

Nondesignation of the WSA would allow motorized recreation to continue within the 4,460 acres and 4.5 miles of vehicle ways. Visitor use would continue to increase to approximately 1,750 visitor use days/year from the current level of 1,400 visitor use days/year as a result of population growth in the nearby communities and the city of Tucson.

Conclusion: Visitor use days/year would increase to approximately 1,750 from the current level of 1,400 VDY as a result of increased motorized recreation in the area.

IMPACTS ON WILDLIFE VALUES

Nondesignation of this WSA would result in the loss of about 20 acres of crucial bighorn sheep and desert tortoise habitat. The surface disturbance associated with mining and ORVs would reduce the amount of habitat available to the three state-listed species that live in the unit (bighorn sheep, desert tortoise and Gila monster). Bighorn sheep use the area of the proposed mineral development as a corridor between Ragged Top and Silver Bell Peak.

Mineral development and increased human activity in the southwest portion of the WSA would cause bighorn sheep to avoid 600 acres of crucial bighorn sheep habitat. This would result in adverse impacts to migration patterns of bighorn sheep herds of both Ragged Top and Silver Bell. Degradation of 20 acres of crucial desert tortoise and Gila monster habitat adjacent to the mining activity and road construction would result in the loss of three adult tortoise.

Conclusion: Under the *No Wilderness* alternative 600 acres of crucial bighorn sheep habitat would be degraded. About 20 acres of mining-related surface disturbance would occur causing degradation of crucial desert tortoise and Gila monster habitat would be degraded.

IMPACTS ON CULTURAL VALUES

The potential is high that a *National Register* quality site exists within the WSA. Impacts caused by mining activities, road construction and upgrade, and increased vehicle access would threaten this potential site. Vandalism and erosion, resulting from increased motorized visitation would be the primary forms of impact.

Conclusion: Under nondesignation, the potential for vandalism and erosion to occur to a *National Register* quality site would increase as a result of the increase in vehicle based visitation.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

A total of 600 acres of crucial wildlife habitat and the naturalness of the area would be disturbed by mining and increased motorized recreation use.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Mining and associated activities would impair portions of the area's naturalness in the long term.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

The minerals mined in the two new mines would be used up and lost to future uses. Wilderness values of naturalness and of naturalness and opportunities for solitude and primitive recreation would be impaired on 20 acres developed for minerals.

All Wilderness

The *All Wilderness* alternative for the Ragged Top WSA would designate 4,460 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of this WSA would provide long-term legislative protection for its wilderness values. Precluding the anticipated mineral exploration and development and road construction would maintain the WSA's existing wilderness values in the southwest portion of the WSA.

By not allowing the development of two small mines and two exploration programs, the naturalness of 20 acres would be maintained. In addition, the perception of naturalness would be preserved and the quality of solitude and primitive recreation opportunities sustained on 750 acres (17 percent) within the WSA. Eliminating motorized recreation also would benefit the naturalness and opportunities for solitude in the unit.

Wilderness visitors, however, would continue to hear motorized users on all four sides of the unit because of the popularity of the area and the existing Cherrystemmed roads and surrounding man-made imprints. Designation of the entire WSA would prevent the further degradation of the WSA's special features which are being studied for their botanical and geological values.

Conclusion: Wilderness designation would maintain the naturalness and opportunities for solitude and primitive recreation for about 750 acres in the southwestern portion of the WSA by precluding mineral development and road construction.

IMPACTS ON MINERAL DEVELOPMENT

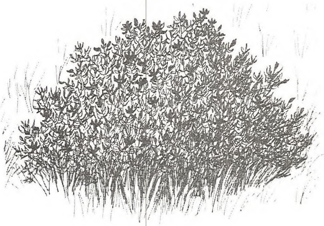
This alternative would withdraw 4,460 acres of federal mineral estate from mineral entry under the mining laws. The entire 4,460 acres of federal mineral estate has a moderate potential for minerals. Wilderness designation would preclude two exploration programs and the development of two small mines.

Conclusion: This alternative would deny two exploration programs and two small mines.

IMPACTS ON RECREATION USES

Wilderness designation would prohibit motorized recreation use (ORVs) on 4,460 acres within the WSA. Visitor use would increase by 350 VDY to 1,750 VDY as the WSA's popularity increases. Ecological studies and nonmotorized recreation would benefit from implementing this alternative. Most of the displaced motorized vehicle users would find comparable terrain and opportunities on nearby public lands.

Conclusion: Designation under the *All Wilderness* alternative would change the types of recreation use taking place in the WSA from a mix of motorized and nonmotorized recreation to all nonmotorized. The projected visitor use is expected to increase by 350 visitor use days/year, primarily due to increased popularity of the area.



IMPACTS ON WILDLIFE VALUES

This alternative would protect 4,460 acres of crucial bighorn sheep, desert tortoise and Gila monster habitat from any new surface disturbance associated with mining and road construction and upgrading. The migration corridor between Ragged Top and Silver Bell Peak for the bighorn sheep would not be degraded or disturbed by mining-related activities. However, migration patterns of the bighorn sheep may be disrupted by the increase in visitor use (700 visitor days/year) to the area. Desert tortoise and Gila monster in the WSA would significantly benefit from this alternative because of prohibitions against motorized recreation use in the entire unit and mineral development in the southwest portion of the WSA.

Conclusion: Designation of this WSA would protect 4,460 acres of crucial desert bighorn sheep, desert tortoise and Gila monster habitat. All three state-listed species would benefit from prohibiting motorized vehicle use and mineral development in the WSA.

IMPACTS ON CULTURAL VALUES

Designation would benefit the cultural resources within this WSA. There is likely to be at least one *National Register* quality site which would benefit from the restrictions placed on mining activities as well as the prohibition of vehicle based visitation. The elimination of motorized access would reduce considerably the potential for vandalism and erosion to these cultural resources.

Conclusion: Wilderness designation will beneficially affect one potential *National Register* site as well as all cultural resources present in the WSA by eliminating motorized visitation and the resulting vandalism and erosion.

No other resources would be impacted by this alternative.

APACHE BOX WSA

(AZ-040-76) — 932 acres

Proposed Action/No Wilderness Alternative (Map 2-15)

The *Proposed Action/No Wilderness* alternative would return 932 acres to other resource uses.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

None of the Apache Box WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long term, wilderness values in the entire area would experience adverse impacts from motorized vehicle use and one mining exploration program.

One mining exploration would impair the natural character of the area disturbing two acres. (Presently this area has some evidence remaining from previous mineral exploration activity and is reached by a one-mile long cherrystemmed road.) Opportunities for solitude and primitive recreation and the visitor's perception of naturalness would be lost on about 100 acres.

The existing quality and array of primitive recreation opportunities would decline on WSA areas adversely affected by mining exploration. The loss of naturalness and scenic features in portions of the WSA, the sights and sounds of exploration and vehicular access would be the primary factors causing the loss or deterioration of primitive recreation opportunities. Hiking and sightseeing opportunities would be impaired over 100 acres in the central portion of the canyon area—a result of mining exploration work. The loss of these opportunities would be mostly offset by the abundance of similar opportunities throughout the region.

Because of vehicle use on the cherrystemmed road, the sights and sounds of vehicles would lessen the quality of solitude and primitive recreation opportunities on about 100 acres of the WSA. Nonmotorized recreationists may encounter vehicles, thus reducing the quality of the recreation experience.

Conclusion: The *No Wilderness* alternative would not prevent adverse impacts to wilderness values. As a result, motorized vehicle use and mining exploration activity would cause a loss or impairment of the wilderness values of naturalness, solitude and primitive opportunities on about 100 acres of the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *Proposed Action/No Wilderness* alternative the 932 acres of federal mineral estate would remain open to mineral entry under the mining laws. The mineral exploration work would continue although no mineral development is likely to occur. This alternative would not prevent the anticipated mineral exploration work.

Conclusion: The *No Wilderness* alternative would allow mineral entry onto all of the federal minerals in the area.

IMPACTS ON RECREATION USE

Opportunities for motorized and nonmotorized recreation activities in the Apache Box WSA would remain unchanged under the *No Wilderness* alternative.

Conclusion: Opportunities for recreation use would not change under the *No Wilderness* alternative.

IMPACTS ON CULTURAL RESOURCES

Construction and mining activities could occur and visitor use would continue. The cultural resources would be threatened by these actions and could be adversely affected by indirect actions such as vandalism and erosion.

Conclusion: Nondesignation would result in continued and new adverse impacts resulting from construction, mining and visitor use.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

Wilderness values of naturalness, solitude and primitive recreation over portions of the WSA would be impaired by mineral exploration and motorized vehicle use.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Mineral exploration would disturb the naturalness of portions of the area in the short term. In the long term the area would return to a natural condition since no mineral development is expected.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

Wilderness values of naturalness solitude and primitive recreation would be impaired on about 100 acres of the unit.

All Wilderness Alternative (Map 2-15)

The *All Wilderness* alternative would designate 932 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Apache Box WSA would provide long-term legislative protection for its wilderness values.

Precluding mineral exploration activity would maintain the existing wilderness values in the WSA. Moreover, the perception of naturalness and the quality of solitude and primitive recreation opportunities would be sustained across a larger 100-acre area.

Because no mineral exploration activity would occur under the *All Wilderness* alternative, the Cherrystemned road would become unusable due to natural processes (revegetation, erosion and bank sloughing). Since vehicles would no longer be able to drive the road, impacts to naturalness, solitude, and primitive recreation would not occur. Wilderness visitors would not see or hear vehicles on about 100 acres of the WSA presently affected by motorized use.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across the WSA.

IMPACTS ON MINERALS DEVELOPMENT

Under the *All Wilderness* alternative, 932 acres of federal mineral estate would be withdrawn from mineral entry and future exploration activities would be stopped, including one proposed exploration activity. There would be no impact on mineral production since no mining activity is projected to occur in the area.

Conclusion: The *All Wilderness* alternative would stop future exploration projects but would not affect mineral production since none is expected.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation. Impacts from vehicles of the Cherrystemned road would not occur because the road would not be maintained and vehicles would no longer use it.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 932 acres.

IMPACTS ON CULTURAL RESOURCES

Under wilderness designation, mineral development, road construction and upgrading, range improvement construction, vehicle access, and other impairing activities would be restricted or prohibited. This would reduce the potential for direct impacts from these activities and reduce the potential for indirect impacts such as vandalism and erosion.

Conclusion: Designation would have a beneficial effect on the cultural resources by restricting or prohibiting impact causing activities.

No other resources would be impacted by this alternative.

HOVERROCKER WSA

(AZ-040-77) — 2,791 Acres

Proposed Action/No Wilderness Alternative (Map 2-15)

The *Proposed Action/No Wilderness* alternative would return 2,791 acres to other resource uses.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

None of the Hoverrocker WSA's wilderness values would receive the legislative protection provided by wilderness designation. Over the long-term, wilderness values in the entire area are not expected to be adversely affected.

Conclusion: The *Proposed Action/No Wilderness* alternative would not adversely impact wilderness values.

IMPACTS ON RECREATION USE

Opportunities for recreation activities in the Hoverrocker WSA would remain unchanged under the *Proposed Action/No Wilderness* alternative.

Conclusion: Opportunities for recreation use would not change under the *Proposed Action/No Wilderness* alternative.

IMPACTS ON CULTURAL RESOURCES

Visitor use is the only activity that would continue to occur in this WSA. The cultural resources could be adversely affected by indirect actions such as vandalism.

Conclusions: Nondesignation could result in adverse impacts from vandalism.

No other resources would be impacted by this alternative.

ADVERSE IMPACTS WHICH CANNOT BE AVOIDED

No adverse impacts are anticipated.

RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF MAN'S ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Continued nonmotorized recreational uses would not affect long-term productivity.

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There would be no irreversible or irretrievable commitments of resources.

All Wilderness Alternative (Map 2-15)

The *All Wilderness* alternative would designate 2,791 acres as wilderness.

Under this alternative the following environmental consequences are anticipated.

IMPACTS ON WILDERNESS VALUES

Wilderness designation of the entire Hoverrocker WSA would provide long-term legislative protection for its wilderness values. There are no projected activities that would affect the existing wilderness values.

Conclusion: Wilderness designation under the *All Wilderness* alternative would maintain the wilderness values of naturalness, solitude and primitive recreation across the entire WSA.

IMPACTS ON RECREATION USE

The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 2,791 acres.

Conclusion: The *All Wilderness* alternative would enhance opportunities for nonmotorized recreation use on 2,791 acres.

No other resources would be impacted by this alternative.

Chapter 5

CONSULTATION AND COORDINATION

CHAPTER 5

CONSULTATION AND COORDINATION

INTRODUCTION

The Arizona Mohave Wilderness Environmental Impact Statement was prepared by an interdisciplinary team of resource specialists from the Phoenix and Safford Districts. Preparation of the EIS began in October 1986. The planning and wilderness study process that preceded the preparation of this draft EIS began in the fall of 1978 with the initial wilderness inventories. This process involved many steps—the wilderness inventories, then public participation, interagency coordination, preparation of Management Framework Plan and Resource Management Plan recommendations and then the EIS process. Consultation and coordination with other agencies, organizations and individuals occurred in a variety of ways throughout the planning and environmental process.

SCOPING AND PUBLIC PARTICIPATION

The Districts invited public participation throughout the development of this EIS. The following list summarizes the actions taken:

1978-1979	Initial wilderness inventory and public comment period
1979-1980	Intensive wilderness inventory and public comment period
1980-1986	BLM study and planning process
September 1986	Letters mailed to the district mailing lists of 2,500
September 1986	Notice of intent to prepare the EIS
September 1986	Letters to the tribal leaders
October 1986	Public meetings held in Kingman and Phoenix, Arizona

In addition, throughout the planning process BLM specialists met in the field and at other locations to consult with the Soil Conservation Service, Arizona Land Department and Arizona Game and Fish Department to check resource data, coordinate methodologies and exchange information.

LIST OF AGENCIES, ORGANIZATIONS, INDIAN TRIBES AND ELECTED OFFICIALS TO WHOM COPIES OF THE DRAFT WILL BE SENT

The BLM will request comments on the draft EIS from affected grazing permittees, interested individuals, federal, state and local agencies, elected officials and interest groups. Due to the size of the mailing list (more than 1,000), the following is a partial list of those who will receive copies of the document:

Elected Officials

FEDERAL

Arizona
Senator Dennis DeConcini
Senator John McCain
Representative Bob Stump
Representative Morris K. Udall
Representative Jim Kolbe
Representative John Kyl
Representative Jay Rhodes

New Mexico
Senator Pete D. Domenici
Senator Jeff Bingaman
Representative Joe Skeen

STATE

Arizona
Governor Evan Mecham
All State Senators
All State Representatives

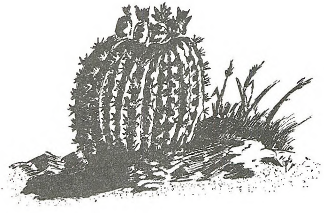
New Mexico
Governor Garrey Garruthers

Federal Agencies

- Advisory Council on Historic Preservations
- Environmental Protection Agency
- Department of Agriculture
  - Agricultural Stabilization and Conservation Service
  - Economics Statistics Service
  - Forest Service
  - Science and Education Administration
  - Soil Conservation Service
- Department of Defense
  - Corps of Engineers
  - U.S. Air Force
  - U.S. Marine Corps
- Department of the Interior
  - Bureau of Indian Affairs
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service

Arizona State Agencies

Arizona Commission of Agriculture and Horticulture
Arizona Department of Health Services
Arizona Department of Library, Archives and Public Records
Arizona Department of Transportation
Arizona Game and Fish Department
Arizona Natural Heritage Program
Arizona Office of Economic Planning and Development
Arizona Outdoor Recreation Coordinating Commission
Arizona State Clearinghouse
Arizona State Historic Preservation Officer
Arizona State Land Commissioner
Arizona State Parks Board
Arizona State University
Arizona Water Resources Department
Attorney General's Office
Governor's Commission on Arizona Environment
Mineral Resource Department
Museum of Northern Arizona
Northern Arizona University
University of Arizona



New Mexico State Agencies

New Mexico Bureau of Mines and Mineral Resources
New Mexico Department of Game and Fish

Local Agencies

Big Sandy Natural Resources Conservation District
Buckeye-Roosevelt Natural Resource Conservation District
District IV Council of Governments
Grant County Commissioners
Greenlee County Board of Supervisors
Maricopa Association of Governments
Maricopa County Board of Supervisors
Maricopa County Planning and Zoning Commission
Mohave County Board of Supervisors
Mohave County Community College
Mohave County Library
Mohave County Planning and Zoning Commission
Northern Arizona Council of Governments
Phoenix Public Library
Wickenburg Resource Conservation District
Yavapai College
Yavapai County Board of Supervisors
Yavapai County Planning and Zoning Department
Yuma County Board of Supervisors
Yuma County Planning and Zoning Department

Indian Tribes and Councils

Chemehuevi Tribal Council
Colorado River Indian Tribes
Fort Mohave Tribal Council
Havasupai Tribal Council
Hopi Tribal Council
Hualapai Tribal Council
Navajo Tribal Council
Tohono O'odham Council
Tonto Apache Tribal Council
San Carlos Council
Salt River-Pima-Maricopa Indian Community Council
Yavapai-Prescott Board of Directors

Other Organizations

Animal Defense Council
Arizona Cattle Growers Association
Arizona Desert Bighorn Sheep Society
Arizona Farm Bureau Federation
Arizona Humane Society
Arizona Livestock Production Credit Association
Arizona Mining Association
Arizona Prospectors and Small Mine Operators Association
Arizona Wildlife Federation
Arizona Wool Growers Association
Arizona 4-Wheel Drive Association
Audubon Society
Defenders of Wildlife
Desert Tortoise Council
Development Corporations
Federal Land Bank Association
International Society for the Protection of Mustangs and Burros
Izaak Walton League of America
Kingman Grazing Advisory Board
League of Women Voters
Legal Organizations
Maricopa County Farm Bureau Federation
Mining Companies
Multiple-Use Advisory Council, Phoenix District
National Audubon Society
National Council of Public Land Users

Natural Resources Defense Council, Inc.
News Media
Oil and Gas Companies
ORV Clubs
Phoenix-Lower Gila Resource Areas Grazing Advisory Board
Public Lands Council
Public Lands Institute
Rockhound Clubs
Save the Mustangs
Sierra Club
The Wilderness Society
Utility Companies
Wild Burro Protection Association
Wild Horse Organized Assistance
Wildlife Management Institute
Wildlife Society

LIST OF PREPARERS

Bill Carter, Team Leader
BS Agronomy, Kansas State University. Bill wrote Chapters 1 and 5 and assisted in preparation of the EIS. He has worked for the BLM for 21 years.

Hal Hallett, Assistant Team Leader
BA History, Yale University. Hal assisted in preparation of the EIS. He has worked for the BLM for seven years.

Hector B. Abrego, Realty Specialist
BS Range Science, Texas A&M University. Hector assisted in the preparation of Chapters 2, 3 and 4. He has worked for the BLM for 10 years.

Douglas P. Bauer, Geologist
BS Geology, University of Missouri; postgraduate work in Geology, Northern Arizona University. Doug wrote the Geology section of Chapter 4 and worked on Chapters 2 and 3. He has worked for the BLM for seven years and the U.S. Geological Survey for four years.

Cheryl Blanchard, Archaeologist
BA Anthropology, Arizona State University. Cheryl wrote the Cultural Resources sections of Chapters 3 and 4. She has worked for the BLM for four years.

Jane Closson, Arizona State Office Writer-Editor
BS Business Education, MA Psychology, California State University at Long Beach. Jane provided the editorial review for this EIS. She has worked nine years for the BLM.

Michael Feeney, Natural Resources Specialist
BS Natural Resource Management, Arizona State University. Mike wrote the Wilderness and Recreation sections for Chapters 2, 3 and 4. He has worked for the BLM for nine years.

Gary Foreman, Realty Specialist
BS Education, Northern Arizona University; Postgraduate work in Range and Soils, University of Arizona. Gary wrote the Lands sections of Chapters 2, 3 and 4. He has worked for the BLM for 11 years.

Mark Fredlake, Wildlife Biologist
BS Wildlife Management, Arizona State University. Mark wrote the Wildlife sections of Chapters 2, 3 and 4. He has worked for the BLM for nine years.

Thomas Gey, Realty Specialist
BS Forestry, University of California, Berkley. Tom wrote the Lands sections of Chapters 2, 3 and 4. He has worked for the BLM for 10 years.

Kelly Grissom, Wild Horse and Burro Specialist
BS Agronomy (Range Management Option), Oklahoma State University; AA Art, Mohave Community College. Kelly wrote the Wild Horse and Burro sections of this EIS. He worked for Oklahoma State University as a Range Technician for 1½ years and the BLM as Range Conservationist and Wild Horse and Burro Specialist for 11 years.

Carolyn Hardage, Word Processor Operator
Carolyn performed word processing responsibilities for this EIS. She worked as a Secretary for the U.S. Air Force for 16½ years and has worked for the BLM as a Clerk Typist for nine months.

Robert L. Harrison
BS Geology, Boise State University, Idaho. Bob wrote the Minerals portion of Chapters 2, 3 and 4. He is an Idaho Registered Professional Geologist, a Consultant for six years and has worked for the government for 10 years.

P. Richard Hibbard
BA Ecology and Evolutionary Biology, University of Arizona; BA English Literature, Humboldt State University, California. Rick worked on the original Phoenix District WSA inventories in the late 70's and early 80's. As a temporary employee he wrote the Vegetation sections for Chapters 2 and 3 for the Kingman Resource Area portion of the EIS.

Wanda Johnson, Editorial Assistant
AA Business Administration, Big Bend Community College, Washington. Wanda provided word processing and technical assistance on this EIS. She has worked three years for the BLM.

Michael W. Kliemann, Outdoor Recreation Planner
BS Outdoor Education/Recreation, Southern Illinois University. Mike wrote the Wilderness and Recreation sections of Chapters 2, 3 and 4 and coordinated the Kingman Resource Area effort. He worked for the National Park Service for 1½ years, as a volunteer in South America for the Smithsonian Institution for three years and has worked for the BLM for eight years.

Renee Kostecka, Range Conservationist
BS Natural Resource Management in Agriculture, Arizona State University. Renee wrote the Range sections of Chapters 2, 3 and 4 and has worked six years for the BLM.

Wendell G. Peacock, Word Processor Operator
BA Mass Communications, Arizona State University. Wendell provided word processor assistance for this EIS. He has worked for the BLM for nine months.

Rebecca L. Peck, Wildlife Management Biologist
BS Wildlife Management, Humboldt State University, California. Rebecca wrote the Wildlife sections of Chapters 2, 3 and 4 and the Vegetation section of Chapter 4. She worked a year for the Soil Conservation Service and has worked for the BLM a total of eight years in Phoenix, Kingman and Safford.

Donald Simonis, Archaeologist
BA, MA Archaeology, Arizona State University. Don wrote the Cultural Resources portions of Chapters 2, 3 and 4. He has worked eight years for the BLM.

Pete Zwaneveld, Outdoor Recreation Planner
BS Outdoor Recreation, Utah State University. Pete wrote the two Safford District WSAs for Chapters 2 and 3. He has worked for the BLM for nine years.

Arizona State Office Support

Jim Currivan, Wilderness Specialist
Keith Pearson, Planning and Environmental Coordinator
Larry Taddia, Supervisory Cartographer
Chester Gawin, Civil Engineering Technician

Phoenix District Support

Henri Bisson, District Manager
Herman Kast, Assistant District Manager
Bill Childress, Lower Gila Resource Area Manager
Roger Taylor, Kingman Resource Area Manager
Art Tower, Phoenix Resource Area Manager
Rich Hanson, Wilderness Specialist

Safford District Support

Ray Brady, District Manager
Lyle Ralston, San Simon Resource Area Manager

GLOSSARY, REFERENCES, AND INDEX

GLOSSARY

The following abbreviations are used in this EIS. Those abbreviations that represent terms are defined in the glossary.

ADMR	Arizona Department of Mineral Resources
AG&FD	Arizona Game and Fish Department
AMP	allotment management plan
APS	Arizona Public Service Company
AUM	animal unit month
BLM	Bureau of Land Management
BR	Bureau of Reclamation
DEIS	Draft Environmental Impact Statement
EA	environmental assessment
EIS	environmental impact statement
ESA	economic study area
FEIS	Final Environmental Impact Statement
FWS	Fish and Wildlife Service
HMAP	herd management plan
HMP	habitat management plan
IMP	interim management policy
kV	kilovolt
MFP	Management Framework Plan
MSA	management situation analysis
NRQ	National Register Quality
NWPS	National Wilderness Preservation System
ONA	outstanding natural area
ORV	off-road vehicle
PNV	potential natural vegetation
RMP	resource management plan
SMSAs	Standard Metropolitan Statistical Areas
Su	surface mine
Ug	underground mine
USDI	U. S. Department of the Interior
USGS	U.S. Geological Survey
VDY	recreation visitor days use per year
VRM	visual resource management
WSA	wilderness study area
4WD	Four wheel drive vehicle

ACTIVITY PLAN: A more detailed and specific plan or program of actions to implement RMP decisions over some specified time period. Examples include allotment management plan, recreation area management plan and habitat management plan.

ADD-ON: Public lands with wilderness characteristics, but less than 5,000 acres in size, adjacent to other public lands designated as wilderness or being studied for designation.

ADVERSE EFFECT (Cultural Resources): Alteration of the characteristics which contribute to the use(s) determined appropriate for a cultural resource or which qualify a cultural property for the National Register to such a degree that the appropriate use(s) are diminished or precluded or the cultural property is disqualified from National Register eligibility. Criteria in the regulations of the Advisory Council (36 CFR Part 800) guide the determination of adverse effects.

ALLOCATION: The division of limited resource capabilities or supplies among the competitors for use.

ALLOTMENT: An area of land assigned to one or more livestock operators for grazing their their livestock. Allotments generally consist of BLM lands but many also include stateowned and private lands. An allotment may include one or more separate pastures. Livestock numbers and seasons of use are specified for each allotment.

ALLOTMENT MANAGEMENT PLAN (AMP): A livestock grazing management plan for a specific allotment based on multiple-use resource management objectives. The AMP considers livestock grazing in relation to other uses of the range and in relation to renewable resources — watershed, vegetation and wildlife. An AMP establishes the seasons of use, the number of livestock to be permitted on the range and the rangeland developments needed.

ALLUVIAL FAN: The alluvial deposit of a stream where it issues from a gorge upon a plain or of a tributary stream at its junction with the main stream or river (see ALLUVIUM).

ALLUVIAL TERRACE: Pertaining to geologic deposits, generally unconsolidated, that are laid down by a river or stream. Deposits are formed normally where the slope or gradient becomes less steep.

ALLUVIUM: Clay, silt, sand or gravel deposited by running water.

ANIMAL UNIT (AU): One mature (1,000 lb) cow or its equivalent (4 deer, 5 antelope, 5 bighorn sheep, 1.25 elk or 1 horse) based upon an average daily forage consumption of 26 pounds of dry matter per day.

ANIMAL-UNIT MONTH (AUM): The amount of forage necessary for the sustenance of one animal for one month, e.g., one deer for one month equals one deer AUM.

ANNUAL PLANT: A plant that completes its life cycle and dies in one year or less (Range Term Glossary Committee, 1974).

APPARENT TREND: Immediate or short-term tendency (used mainly for grazing in this EIS).

AVOIDANCE: A potential adverse effect is prevented from occurring by the partial or complete redesign or relocation of a proposed land use.

BACKGROUND: The area visible from a travel route, use area or other observer position from a minimum of 3 to 5 miles to a maximum of about 15 miles (used in visual resources management).

BAJADA: Outwash slope at the base of a mountain consisting of fragments of rock.

BIGHORN SHEEP LAMBING GROUNDS: Areas where bighorn sheep usually go to give birth — usually isolated mountainous areas.

BIGHORN SHEEP YEARLONG USE AREA: An area of land a bighorn sheep population normally ranges over in pursuit of their basic life requirements: food, cover, forage and space.

BROWSE: Tender shoots, twigs and leaves of trees and shrubs fit food for wildlife and livestock.

CARRYING CAPACITY:

(1. Ecology/wildlife management) — The number (or weight) of organisms of a given species and quality that can survive in a given ecosystem (without causing deterioration of that ecosystem) through the least favorable environmental conditions that occur within a stated interval of time.

(2. Recreation management) — The level and type(s) of recreational use that a natural or developed area can provide without deterioration of the quality of the recreation experience or the resource.

CATCHMENT: A structure built to collect and retain water.

CATEGORICAL EXCLUSION: A category of actions which do not individually or cumulatively have a significant effect on the human environment and which have been found to have no such effect and for which, therefore, neither an environmental assessment nor an environmental impact statement is required. An agency may decide in its procedures or otherwise, to prepare environmental assessments even though it is not required to do so. Any procedures under this section shall provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.

CHANNEL: An open conduit, either naturally or artificially created, which periodically or continuously contains moving water or forms a connecting link between two bodies of water.

CHANNEL STABILITY: A relative term describing erosion or movement of the channel walls or bottom due to overflow.

CHERRY-STEMMED ROAD: A road that enters but does not pass completely through a wilderness study area.

CLIMAX: The final stage of plant succession that continues to occupy an area as long as climatic or soil conditions remain unchanged and no major disturbances occur.

CLIMAX COMMUNITY: Highest ecological development of a community on a given site determined primarily by climate but also influenced by soil, topographic, vegetative, fire and animal factors.

CLOSED DESIGNATION: Areas and trails where the use of motor vehicles is permanently or temporarily prohibited.

COMMUNITY: A group of plants and animals living together in a common area and having close interactions.

CONSERVATION FOR FUTURE USE: A cultural resource will be separated and protected from other non-compatible land uses and preserved in place because (a) that particular site type is scarce or unique, (b) its information potential cannot be realized through available archaeological methods or (c) it represents an outstanding example of a particular site type.

CONTRAST: The effect of a striking difference in the form, line, color or texture of the landscape features within the area being viewed (used in visual resources management).

CONTROLLED LANDS: Those lands in an allotment, including public land that owned or leased by the allottee.

COVER, TOTAL VEGETATIVE: Percentage of ground area covered by live aerial parts of plants and mulch.

CRITICAL RANGE: Range on which a species depends for survival; there are no alternative ranges available due to climatic conditions or other limiting factors. Also called key range or crucial range.

CRITICAL WILDLIFE HABITAT: The area of land, water and airspace required for the normal needs and survival of an endangered species.

CRUCIAL HABITAT: Crucial habitat includes portions of the habitats of officially designated BLM sensitive species that, if destroyed or adversely modified, could result in their being listed as threatened and endangered pursuant to section 4 of the Endangered Species Act of 1973, as amended, or in some category implying endangerment by a State agency or legislature (BLM Manual Section 6840, Glossary, Page 1).

CULTURAL PROPERTY: Any definite location of past human activity, habitation or use identified through a field inventory (see below), historical documentation or oral evidence. This term may include (a) archaeological or historic sites, structures and places and (b) sites or places of traditional cultural or religious importance to a specific group, whether or not represented by physical remains. Cultural properties are managed by the system of inventory evaluation and protection and use (see Appendix J).

CULTURAL RESOURCES: Those fragile and nonrenewable remains of human activity, occupation or use reflected in sites, structures, buildings, objects, artifacts, ruins, works of art, architecture and natural features that were of importance in human events. These resources consist of (1) physical remains, (2) areas where significant human events occurred — even though evidence of the event no longer remains and (3) the environment immediately surrounding the resource.

CULTURAL RESOURCE INVENTORY: A descriptive listing and documentation including photographs and maps of cultural resources; included are the processes of locating, identifying and recording sites, structures, buildings, objects and districts through library and archival research, information from persons knowledgeable about cultural resources and varying levels of intensity of on-the-ground field surveys.

Class I: A professionally prepared study that compiles, analyzes and synthesizes all available data on cultural resources. Information sources for this study include published and unpublished documents, Bureau inventory records, institutional site files and state and national register files. Class I inventories may have prehistoric, historic and ethnological/sociological elements. These inventories are periodically updated to include new data from other studies and Class II and III inventories (see next entries).

Class II: A professionally conducted, statistically based sample survey designed to describe the probable density, diversity and distribution of cultural properties found in a large area. This is accomplished by projecting the results of intensive survey carried out over limited portions of the target area. Within individual sample units, survey aims, methods and intensities are the same as those applied in Class III inventory (see below). Class II inventory may be conducted in several phases using different sample designs to improve statistical reliability.

Class III: A professionally conducted intensive survey of an entire target area aimed at locating and recording all visible cultural properties. This survey is accomplished through systematic inspections commonly carried out by a crew of trained observers who walk a series of close-interval parallel transects until the area has been thoroughly examined.

CULTURAL RESOURCE SITE: A physical location of past human activities or events. Cultural resource sites are extremely variable in size and range from the location of a single cultural resource object to a cluster of cultural resource structures with associated objects and features. Prehistoric and historic sites which are recorded as cultural resources have sociocultural or scientific values.

CURRENT SCIENTIFIC USE: A cultural resource is the subject of an on-going scientific or historical study at the time of evaluation.

CUSTODIAL GRAZING MANAGEMENT ("C"Category): A limited form of rangeland management employed when the percentage of public lands is small, there is limited opportunity or potential for improvement or when public land is scheduled to be transferred from public ownership or when conditions are not conducive to other management. Under custodial management, an allottee is not required to follow a specified grazing system. BLM authorizes only the capacity for public lands within the alllotment.

DEFERRED-ROTATION GRAZING: Moving livestock to various parts of a range in succeeding years or seasons to provide for seed production, plant vigor and for seedling growth.

DESERT PAVEMENT: A nearlyflat desert soil surface consisting of a thin layer of pebbles covered with dark-brown varnish or iron and manganese oxides.

DESIGNATED CORRIDOR: A linear area of land with defined and recognized boundaries and capacities having ecological, technical, economic, social or similar advantages over other areas for the present or future location of rights-of-way and which have been identified and designated by legal public notice

ECOSYSTEM: A complex self-sustaining natural system which includes living and nonliving components of the environment and the circulation of matter and energy between organisms and their environment.

EFFECT (Cultural Resources): Any change in the characteristics which contribute to the use(s) determined appropriate for a cultural resource or to the qualities that qualify a cultural property for the National Register. Determination of effect is guided by criteria in the regulations of the Advisory Council, 36 CFR Part 800.

ENVIRONMENTAL ASSESSMENT (EA): The procedure for analyzing the impacts of some proposed action on a given environment and the documentation of the analysis. An EA is similar to an environmental impact statement (EIS) but is generally smaller in scope. An EA may be preliminary to an EIS.

ENVIRONMENTAL IMPACT STATEMENT (EIS): A written analysis of the impacts on the environment of a proposed project or resource management plan.

EPHEMERAL GRAZING: Seasonal livestock use of annual plants (see Annual Plants).

EROSION: The wearing away of the soil and surface by running water, wind, ice or other geological agents.

EVALUATION (Cultural Resources): The analysis of cultural resource inventory records, the application of professional judgment to identify characteristics that contribute to possible uses for recorded cultural resources, and the recommendation of appropriate use(s) for each resource or group of resources. National Register eligibility criteria, 36 CFR Part 60, are interpreted through or with reference to Bureau evaluation criteria.

EXOTIC: Not native to the place where found; pertains to plants and animals in this EIS.

EXTENSIVE RECREATION MANAGEMENT AREA: In these areas, significant recreation opportunities and problems are limited and intensive recreation management is not required. Minimal management actions related to the Bureau's stewardship responsibilities are adequate in these areas.

FEDERAL LAND POLICY AND MANAGEMENT ACT OF 1976 (FLPMA): Public Law 94-579, which gives BLM the legal authority to establish public land policy, to establish guidelines for administering such policy and to provide for the management, protection, development and enhancement of the public lands.

FEDERAL LANDS: Lands owned by the United States, without reference to how the lands were acquired or which federal agency administers the lands, including mineral or coal estates underlying private surface.

FLOODPLAIN: The nearly level alluvial plain that borders a stream or river and is subject to inundation during high water periods; the relatively flat area or lowlands adjoining a body of standing or flowing water which has been or might be covered by floodwaters.

FORAGE: All browse and herbaceous food available to and usable by grazing animals. Forage value varies with palatability, nutritive content, productivity, availability, season of use, type of animal being grazed, etc.

FORBS: Herbs other than grass; pertains to grazing and wildlife habitat.

FOREGROUND-MIDDLEGROUND: The area visible from a travel route, use area or other observer position to a distance of three to five miles (used in visual resources management).

FLYWAY: An established air route of migratory birds.

GRANDFATHERED USE: A mineral, grazing or right-of-way use that was on the land on the date that the Federal Land Policy and Management Act was approved (FLPMA; October 21, 1976). Under BLM's Interim Management Policy and Guidelines for Lands Under Wilderness Review (BLM, 1979), grandfathered uses may continue on lands under wilderness review in the same manner and degree as on the date of FLPMA's approval, even if such uses impair wilderness suitability. These uses, however, must be regulated to ensure that they do not unnecessarily degrade these lands.

GRAZING PREFERENCE: The total number (active and suspended non-use) of animal-unit months of livestock grazing on public land apportioned and attached to base property owned or controlled by a permittee.

HABITAT: The place where an animal or plant normally lives, often characterized by a dominant plant and co-dominant form (pinyon juniper habitat).

HABITAT MANAGEMENT PLAN: A written and officially approved plan for a specific geographic area which identifies wildlife habitat and related objectives, establishes the sequence of actions for achieving objectives and outlines procedures for evaluating accomplishments.

HUNTER DAY: One person hunting during any part of one day.

IMPROVE GRAZING MANAGEMENT ("I"Category): A form of grazing management for rangeland in unsatisfactory condition that has production potential higher than present levels, but also has resource-use conflicts or unsatisfactory management. BLM intensively monitors the range to detect the results of "improve grazing management". Allotment plans are implemented.

INHOLDINGS: State or privately-owned land inside a wilderness study area.

INSIDE THE LEVEE: Lands between the flood control levee and the river.

INTENSIVE RECREATION OPPORTUNITIES: Concentrated or exhaustive use of recreation resources.

INTENSIVE MANAGEMENT: Managing vegetation or other resources through a system to obtain desired results.

INTERIM MANAGEMENT POLICY AND GUIDELINES FOR LANDS UNDER WILDERNESS REVIEW (IMP): A BLM document, dated December 12, 1979, which defines the policy for management of wilderness study areas so as not to impair their suitability for preservation as wilderness. The IMP will apply to these lands until Congress determines whether or not they are to be designated wilderness.

KNOWN GEOLOGIC STRUCTURES (KGS): Areas known to contain producible oil and gas deposits.

LEASABLE MINERALS: Minerals such as coal, oil shale, oil and gas, phosphate, potash, sodium, geothermal resources and all other minerals that may be acquired under the Mineral Leasing Act of 1920, as amended.

LEASE: An instrument through which interests are transferred from one party to another, subject to certain obligations and considerations.

LEGAL DESCRIPTION: The description of a particular parcel of land according to the official plat of its cadastral survey, including Township, Range and Section numbers.

LOCATABLE MINERALS: Any valuable mineral that is not salable or leasable, including gold, silver, copper, tungsten and uranium, etc. (Maley 1983).

LONG-TERM IMPACTS: Impacts occuring 5 to 20 years or more following implementation of action.

MAINTAIN GRAZING MANAGEMENT ("M" Category): A form of grazing management for rangeland already in satisfactory condition that provides for no special programs or change in existing impact. Under maintained management, BLM monitors the range to detect undesirable conditions. Allotment management plans can be implemented if desired.

MANAGEMENT FRAMEWORK PLANS (MFPs): The 1975 land use plans for public lands in the Yuma District that provide a set of goals, objectives and constraints for a specific planning area to guide the development of detailed plans for the management of each resource.

MANAGEMENT USE: A cultural resource is used for controlled experimental study which would result in its physical alteration. This study is conducted to obtain specific information on (a) the kinds and rates of natural and human-caused deterioration or (b) the effectiveness of protection measures.

MIDDENS: A refuse area associated with villages or camps (Cultural Resources); a dunghill (Wildlife Habitat).

MINERAL ENTRY: The location of mining claims by an individual to protect his right to a valuable mineral.

MINERAL ESTATE: Mineral ownership.

MITIGATION: The lessening of a potential adverse effect by applying appropriate protection measures, the recovery of cultural resource data or other measures.

MITIGATION MEASURES: Methods or procedures committed to by BLM for the purpose of reducing or lessening the impacts of an action.

MULTIPLE-USE: The management of public lands and their various resource values so that they are used in the combination that will best meet present and future public needs.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) OF 1969: A law enacted on January 1, 1970, that established a national policy to maintain conditions under which man and nature can exist in productive harmony and fulfill the social, economic and other requirements of present and future generations of Americans. It established the Council on Environmental Quality for coordinating environmental matters at the federal level and to serve as advisor to the President on such matters. The law made all federal actions and proposals which could have significant impact on the environment subject to review by federal, state and local environmental authorities.

NATIONAL HISTORIC PRESERVATION ACT (NHPA): The primary federal law providing for the protection and preservation of our cultural resources. Making it a national policy to preserveour cultural heritage, NHPA established the National Register of Historic Places, the Advisory Council on Historic Preservation and State Historic Preservation Officers.

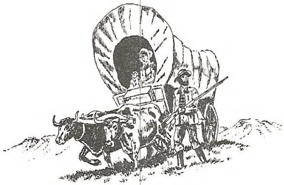
NATIONAL REGISTER OF HISTORIC PLACES (NRHP): A list of districts, sites, buildings, structures and objects significant in American history, architecture, archeology and culture maintained by the Secretary of the Interior. Expanded as authorized by Section 2(b) of the Historic Sites Act of 1935 (16 U.S.C. 462) and Section 101(a)(1) (A) of the National Historic Preservation Act.

NATIONAL REGISTER QUALITY SITE: A cultural resource site determined to be eligible for nomination to the National Register of Historic Places by virtue of its local, state or national significance.

NATIVE AMERICAN VALUES: Native Americans hold specific and traditional values for sites or areas which may not contain cultural artifact or feature remains. Such sites or areas include but are not limited to places where hunting or gathering has occurred, or special areas considered sacred in their religious beliefs.

NATURAL AREA: Lands managed for (a) retention of their typical or unusual plant or animal types, associations or other biotic phenomena or (b) their outstanding scenic, geologic, soil or aquatic features or processes.

NATURALNESS: Appearing to be affected primarily by the forces of nature, with human influence largely unnoticeable.



OFF-ROAD VEHICLE (ORV): Any motorized, tracked or wheeled vehicle designed for crosscountry travel over any type of natural terrain. Exclusions (from Executive Order 11644, as amended by Executive Order 11989) are nonamphibious registered motorboats, any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes, any vehicle whose use is expressly authorized by the authorizing officer or otherwise officially approved, vehicles in official use, and any combat support vehicle in times of national defense emergencies.

OFF-ROAD VEHICLE DESIGNATIONS:

Open — Designated areas and trails where ORVs may be operated (subject to operating regulations and vehicle standards set forth in BLM Manuals 8341 and 8343).

Limited — Designated areas and trails where the use of ORVs is subject to restrictions, such as limiting the number or types of vehicles allowed, dates and times of use (seasonal restrictions); limiting use to existing roads and trails or limiting use to designated roads and trails. Combinations of restrictions are possible, such as limiting use to certain types of vehicles during certain times of the year.

Closed — Designated areas and trails where the use of ORVs is permanently or temporarily prohibited. Emergency use of vehicles is allowed.

100-YEAR FLOODPLAIN: Low lands and relatively flat areas adjacent to a water body that are subject to a 1% or greater chance of flooding in any given year, usually between the levees.

OUTSIDE THE LEVEE: Lands protected from the river by the flood control levee.

OUTSTANDING: Standing out among others of its kind; conspicuous, prominent or superior to others of its kind, distinguished or excellent as used in the description of wilderness characteristics.

OUTSTANDING NATURAL AREAS: Natural areas established to preserve scenic values and areas of natural wonder.

PERENNIAL GRAZING: Yearlong livestock use.

PERENNIAL PLANT: One with a life cycle of three or more years.

PLACER DEPOSIT: An alluvial or glacial deposit, as of sand or gravel, containing particles of gold or other valuable minerals.

PREDATION: The act of preying on other animals; food is obtained by killing and consuming animals.

PRELIMINARILY SUITABLE (WSAs): A wilderness recommendation made at any stage prior to the time when the Secretary of the Interior reports his recommendations to the President. Until the Secretary acts, the recommendation is "preliminary" because it is subject to change during administrative review.

PRIMITIVE RECREATION: Non-motorized outdoor recreation that requires undeveloped areas, e.g., those areas with wilderness opportunities.

PRIMITIVE RECREATION OPPORTUNITY: Opportunity for isolation from the sights and sounds of human beings. Opportunity to feel a part of the natural environment and to use outdoor skills.

PRIORITY USE AREA: An area where a particular resource, such as wildlife habitat, would receive management emphasis or priority. The areas are either unique, significant or best-suited for the development, management, use or protection of a resource. The principles of multiple use and sustained yield would be maintained in each priority use area. Many different uses would be allowed in these areas but the priority use would have the most emphasis. Other land uses would have limits placed on them to prevent conflicts with the priority resource. In some instances, a use totally incompatible with the priority resource would be excluded.

PRIORITY WILDLIFE SPECIES: See Species, Priority Wildlife.

PROPOSED LAND USE: Any use of lands or resources which requires an authorized officer's formal approval, whether proposed by the Bureau or by an outside applicant (used in cultural resources).

PUBLIC LAND: Vacant, unappropriated and unreserved lands that never left federal ownership; also, lands in federal ownership obtained in exchange for public lands or for timber on public lands. Land administered by the Bureau of Land Management.

PUBLIC PARTICIPATION: Part of BLM's planning system that provides the opportunity for citizens as individuals or groups to express local, regional and national perspectives and concerns in the rule making, decisionmaking, inventory and planning processes for public lands. This includes public meetings, hearings or advisory boards or panels that may review resource management proposals and offer suggestions or criticisms for the various alternatives considered.

PUBLIC USE: A cultural property is eligible for consideration as an interpretive exhibit-in-place, a subject of supervised participation in scientific or historical study, a subject of unsupervised collecting under permit or related educational and recreational uses by members of the general public.

RANGE (RANGELAND): Land dominated by vegetation that can be grazed or browsed and whose husbandry is provided routinely through grazing management instead of renovations or cultural treatment (Range Term Glossary Committee, 1974).

RANGE CONDITION: The present state of vegetation of a range site in relation to the climax plant community (natural potential) of that site. Range condition is basically an ecological rating of the plant community. Air-dry weight is the unit of measure used in comparing the composition and production of the present plant community with that of the climax community.

RANGE CONDITION TREND: Direction of change, whether stable, toward (upward) or away (downward) from the site's potential.

RANGE IMPROVEMENT: A structure, development or treatment used to rehabilitate, protect or improve the public lands to enhance the range resource.

RANGELAND MONITORING PROGRAM: A program designed to measure changes in plant composition, ground cover, animal populations and climatic conditions on the public rangeland. Vegetation studies are used to monitor changes in rangeland condition and determine the reason for any changes that are occurring. The vegetation studies consist of actual use, utilization trend, and climatic conditions.

RAPTOR: Birds of prey with sharp talons and strongly curved beaks, e.g., hawks, owls, vultures, eagles.

RECREATION AND PUBLIC PURPOSES ACT (R&PP): This act authorizes the Secretary of the Interior to lease or convey public lands for recreational and public purposes under specified conditions of states or their political subdivisions and to non-profit corporations and associations.

RECREATIONAL OPPORTUNITY: Those outdoor recreational activities which offer satisfaction in a particular physical, social and management setting in the EIS area. These activities are primarily hunting, fishing, wildlife viewing, photography, boating and camping.

RECREATION VISITOR DAY: An aggregation of 12 visitor hours. A visitor hour is the presence of one or more persons on land and water for outdoor recreation for periods totaling 60 minutes; for example, one person for one hour, two persons for one-half hour each, and so on.

RESEARCH NATURAL AREA (RNA): A natural area established and maintained for research and education, which may include (a) typical or unusual plant or animal types, associations or other biotic phenomena or (b) characteristic or outstanding geologic, soil or aquatic features or processes. The public may be excluded or restricted from such areas to protect studies.

RESOURCE AREA: The smallest administrative subdivision of a BLM district.

RESOURCE-BASED RECREATION: Recreation relating to the natural features of the land.

REST-ROTATION GRAZING: A grazing system in which one part of the range is left ungrazed for an entire year or longer, while other parts are grazed for a portion or all of a growing season.

RIPARIAN AREA: An area where the vegetation shows the effects of open water or water very close to the surface of the ground. This includes the shores of lakes and reservoirs, intermittent or perennial streams, desert washes, springs and rivers.

RIPARIAN COMMUNITIES: Vegetative communities found in association with either open water or water close to the surface. In the Desert Southwest this vegetation includes cottonwood, willow, ironwood and blue paloverde trees.

RIPARIAN HABITAT, AQUATIC (STREAMSIDE): Vegetative communities found in association with streams (both perennial and intermittent), lakes, ponds and other open water. This unique habitat is crucial to the continued existence of the fish species known to occur. Streamside vegetation maintains high-water tables, stabilizes streambanks, creates quality fishery habitat and maintains water quality. It is also essential to most terrestrial wildlife species.

RIPARIAN HABITAT, TERRESTRIAL: Vegetative communities found in association with either open water or water close to the surface includes such habitat features as willow and cottonwood trees, salt cedar and mesquite trees. This unique habitat is crucial to the continued existence of the majority of the terrestrial wildlife species known to occur in the district.

ROAD: Vehicle routes which have been improved and maintained by mechanical means to ensure relatively regular and continuous use. A way maintained solely by the passage of vehicles does not constitute a road (see Vehicle Way).

RUNOFF: The water that flows on the land surface from an area in response to rainfall or snowmelt. As used in this EIS, runoff from an area becomes streamflow when it reaches a channel.

SALABLE MINERALS: Minerals such as common varieties of sand, stone, gravel, pumicite and clay that may be acquired under the Materials Act of 1947, as amended.

SCENIC QUALITY: The degree of harmony, contrast and variety within a landscape (used in visual resources management).

SCOPING PROCESS: An early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. Scoping may involve public meetings, field interviews with representatives of agencies and interest groups, discussions with resource specialists and managers, written comments in response to news releases, direct mailings and articles about the proposed action and scoping meetings.

SEMIPRIMITIVE MOTORIZED RECREATION OPPORTUNITY: Opportunity to use motorized equipment in areas with some opportunity for isolation from the sights and sounds of human beings. Isolation is not as important in semiprimitive opportunities as it is in primitive opportunities. Opportunity for a high degree of interaction with the natural environment, moderate challenge and risk, and use of outdoor skills.

SEMIPRIMITIVE NONMOTORIZED RECREATION OPPORTUNITY: Opportunity for recreation without motorized equipment in areas with some opportunity for isolation from the sights and sounds of human beings. Isolation is not as important in semiprimitive opportunities as it is in primitive opportunities. Opportunity for a high degree of interaction with the natural environment, moderate challenge and risk, and use of outdoor skills.

SENSITIVE SPECIES: See Species, Sensitive.

SHERD: A fragment of a pottery vessel.

SHORT-TERM: The period of time needed to implement management's decisions following the completion of the EIS, approximately five years.

SHORT-TERM IMPACTS: Temporary impacts lasting less than five years and expected to occur during or immediately following implementation of action.

SIGNIFICANCE: A high degree of importance as indicated by either quantitative measurements or qualitative judgments. Significant issues and impacts require explicit consideration in the preparation of a plan. Significance may be determined by evaluating characteristics pertaining to location, extent, consequence and duration of an action or impact.

SIKES ACT—(Public Law 93-452): An Act passed to expand the authority for carrying out conservation and rehabilitation programs on public lands. Provides for the development of comprehensive plans for conservation and rehabilitation programs by the Secretary of the Interior in consultation with state agencies. It also provides for entering into cooperative agreements between the Secretary of the Interior and state agencies for the management of wildlife habitat on public lands.

SOCIO-CULTURAL USE: A social and/or cultural group perceives that a cultural resource, place, structure or geographic location has characteristics which help to maintain the group's heritage or identity.

SOIL HORIZON: A layer of soil, approximately parallel to the surface, that has distinct characteristics produced by soil-forming processes.

SOLITUDE: The state of being alone or remote from habitations; isolation or a lonely, unfrequented or secluded place as used in describing wilderness opportunities.

SPECIAL FEATURES: Resources that are not required for an area to be designated wilderness but that are considered in assessing the wilderness potential of an area. Such values include ecologic, geologic and other featues of scientific, educational, scenic or historic value.

SPECIAL RECREATION MANAGEMENT AREA (SRMA): Areas requiring explicit recreation management to achieve the Bureau's recreation objectives and to provide specific recreation opportunities. Special management areas are identified in the RMP, which also defines the management objectives for the area. BLM's recreation investments are concentrated in these areas.

SPECIES, ENDANGERED: An animal or plant whose prospects of survival and reproduction are in immediate jeopardy, and as further defined by the Endangered Species Act of 1973, as amended.

SPECIES COMPOSITION: Proportions of various plant species in relation to the total on a given area; may be expressed in percentages based on weight, crown cover or basal intercept.

SPECIES, PRIORITY WILDLIFE: Those fish and wildlife species listed or proposed for listing by a state wildlife agency or the U.S. Fish and Wildlife Service as endangered, threatened or sensitive candidate; and species of significant economic or recreational value.

SPECIES, SENSITIVE: A designation which is (1) applied to species not yet officially listed but which are undergoing a status review or are proposed for listing according to Federal Register notices published by the Secretary of the Interior or, the Secretary of Commerce or in accordance with comparable state documents published by state officials; (2) applied to species whose populations are consistently small and widely dispersed or whose ranges are restricted to a few localities, such that any appreciable reduction in numbers, habitat availability, or habitat condition might lead toward extinction or (3) applied to species whose numbers are declining so rapidly that official listing may become necessary as a conservation measure.

SPECIES, THREATENED: Any species which is likely to become an endandered species within the foreseeable future throughout all or a significant portion of its range, and as is further defined by the Endangered Species Act of 1973, as amended.

SPLIT ESTATE: The surface estate and the mineral estate of a parcel of land are in different ownership.

STATE HISTORIC PRESERVATION OFFICER: The official who is appointed by the Governor to be responsible for administering the State Historic Preservation Program pursuant to Section 101(b)(1) of the National Historic Preservation Act.

STOCKING RATE: Number of animals on a given area of land at any time. It may be above, below or equal to the proper carrying capacity and may be expressed as animal-unit months per acre, animal-unit years per section or acres per animal-unit month or year.

SUCCESSION, PLANT: Process of vegetational development whereby an area becomes successively occupied by different plant communities of higher ecological order.

SUSTAINED YIELD: The achievement and maintenance in perpertuity of a high level of annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

SWITCHBACK (DEFERRED) GRAZING: The discontinuance of livestock grazing on an area for a specified period of time during the growing season to promote plant reproduction or restoration of vigor by old plants.

TERRESTRIAL HABITAT: Habitat pertaining to the land as distinct from the water.

THREATENED SPECIES: Any plant or animal species that is likely to become an endangered species throughout all or a significant portion of its range, as defined by the U.S. Fish and Wildlife Service under the authority of the Endangered Species Act of 1973.

TINAJA (Spanish): A natural water catchment. Also called a tank.

TOPOGRAPHY: The exact physical features and configuration of a place or region; the detailed and accurate description of the landforms of a place or region.

TRADITIONAL LIFEWAY VALUE: The quality of being useful in or important to the maintenance of a specific social and/or cultural group's traditional system of religious belief, cultural practice or social interaction, not closely identified with specific locations. Traditional lifeway values are taken into account through planning and environmental assessment, and may be subject to inventory, evaluation, administrative protection and use.

TRAIL: A track, made by the passage of a vehicle, regularly used for travel. Desert washes are included as trails except where washes have been specifically closed to vehicle operation.

TRESPASS: The use of public lands without proper authority, resulting either from a willful or negligent act.

VEGETATION: Plants in general or the sum total of the plant life above and below ground in an area.

VEGETATIVE TYPE: A plant community dominated or apparently dominated by one or more species which give it a characteristic appearance or aspect. Examples include sagebrush, creosotebush, mesquite, shortgrass, tallgrass, etc. Usually a subdivision of a grazing region.

VEHICLE WAY: A vehicle route established and maintained solely by the passage of motor vehicles.

VIEWSHED: The area over which a specific project or feature is visible.

VISITOR DAY: See Recreation Visitor Day.

VISUAL RESOURCE: The land, water, vegetation and animals that comprise the scenery of an area.

VISUAL RESOURCE MANAGEMENT (VRM): The planning, designating and implementing of management objectives to provide acceptable levels of visual impacts for all BLM resource management activities.

VISUAL RESOURCE MANAGEMENT CLASSES: The degree of acceptable visual change within a characteristic landscape. A class is based upon the physical and sociological characteristics of any given homogeneous area and serves as a management objective.

Class I areas (preservation) provide for natural ecological changes only. This class includes primitive areas, some natural areas, some wild and scenic rivers and other similar sites where landscape modification activities should be restricted.

Class II (retention of the landscape character) includes areas where changes in any of the basic elements (form, line, color or texture) caused by management activity should not be evident in the characteristic landscape.

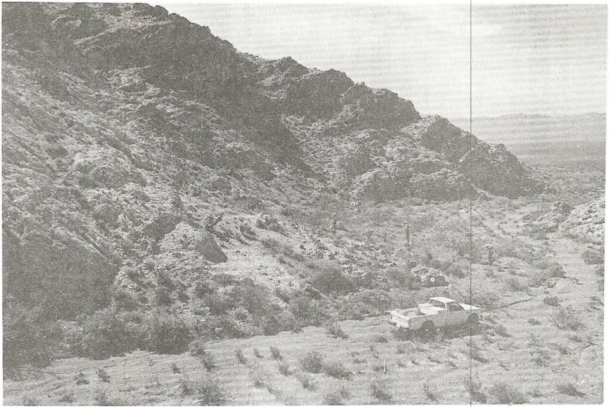
Class III (partial retention of the landscape character) includes areas where changes in the basic elements (form, line, color or texture) caused by management activity may be evident in the characteristic landscape. However, the changes should remain subordinate to the visual strength of the existing character.

Class IV (modification of the landscape character) includes areas where changes may subordinate the original composition and character; however, they should reflect what could be a natural occurrence within the characteristic landscape.

Class V (retention or enhancement of the landscape character) includes areas where change is needed. This class applies to areas where the landscape character has been so disturbed that rehabilitation is needed or where the quality class has been reduced because of unacceptable intrusions. It should be considered an interim short-term classification until one of the other classes can be reached through rehabilitation or enhancement.

VULNERABILITY: The condition where a resource or area is in danger of extensive degradation in the immediate or foreseeable future.

WATER QUALITY: Thechemical, physical and biological characteristics of water with respect to its suitability for a particular use.



Off-highway vehicle use opportunities are available in desert washes and on jeep trails — Black Mountains North WSA.

WATERSHED: A total area of land above a given point on a waterway that contributes runoff water to the flow at that point.

WETLANDS: Permanently wet or intermittently flooded areas where the water table (fresh, saline or brackish) is at, near or above the soil surface for extended intervals, where hydric wet soil conditions are normally exhibited and where water depths generally do not exceed two meters.

WILDERNESS AREA: An area formally designated by Congress as a part of the National Wilderness Preservation System.

WILDERNESS CHARACTERISTICS: Identified by Congress in the 1964 Wilderness Act: size, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation and supplemental values such as geological, archaeological, historical, ecological, scenic or other features. It is required that the area possess at least 5,000 acres of contiguous public land or be of a size to make practical its preservation and use in an unimpaired condition; be substantially natural or generally appear to have been affected primarily by the forces of nature, with the impairing of man being substantially unnoticeable; and have either outstanding opportunities for solitude or a primitive and unconfined type of recreation. Congress stated that a wilderness area may also have supplemental values, which include ecological, geological or other features of scientific, educational, scenic or historical value.

WILDERNESS STUDY AREA (WSA): A parcel of public land that has been found to possess the basic wilderness characteristics identified by Congress in the Wilderness Act of 1964; namely, naturalness, outstanding opportunities for solitude or a primitive and unconfined type of recreation, size of at least 5,000 acres, and the appearance of having been affected primarily by the forces of nature. Supplemental values such as geological, archaeological, historical, ecological, or scenic features also may be present.

WILDERNESS VALUES: The wilderness characteristics and multiple resource benefits of an area.

WINDOW: Usually short, narrow passageways through constrained areas which are the most feasible potential locations for linear facilities such as powerlines and pipelines considering engineering and/or environmental factors.

WITHDRAWAL: An action that restricts the use of public lands and segregates the lands from the operation of all or some of the public land or mineral laws.

YEARLONG GRAZING: Continuous grazing for a 12-month period or for a calendar year.

REFERENCES

Minerals

Dings, M.G., 1951, The Wallapai Mining District, Cerbat Mountains, Mohave County, Arizona: United States Geological Survey, Bulletin 978 - E.

Elevatorski, E.A., 1978, Arizona Industrial Minerals: Arizona Department of Mineral Resources, Mineral Report No. 2.

Fischer - Watt Mining Co., Inc., 1986, The Van Deeman Project: Fischer - Watt Mining Co., Inc.

Grubaugh, K.W., 1987, Brief Report on the Portland Mine: Western States Minerals Corporation.

Hillemeyer, B., 1987, Geological and Structural Map of the Black Mountains Detachment System: Fischer - Watt Mining Co., Inc.

Holmes, D.A., 1984, Summary Report of the McHeffy Butte Zeolite Property, Mohave County, Arizona: PDZ Corporation.

Jenkins, F.J., 1986, The Secret Pass Project, Brief Report and Map: Sante Fe Pacific Mining, Inc.

Keith, S.B., D.E. Gest, E. DeWitt, N.W. Toll, B.A. Everson, 1983, Metallic Mineral Districts and Production in Arizona: Arizona Bureau of Geology and Mineral Technology, Bulletin 194.

Lawson, B., 1987, Advance copy of the Mount Tipton WSA Geological Map: United States Geological Survey, OFR 87-X.

Lausen, Carl, 1931, Geology and Ore Deposits of the Oatman and Katherine Districts Arizona: Arizona Bureau of Mines, Bulletin 131.

McCrory, F.J. and R.T. O'Haire, 1965 (Revised), Map of Known Nonmetallic Mineral Occurrences of Arizona: Arizona Bureau of Geology and Mineral Technology.

Oliver, D.C., 1985, The McHeffy Butte Clinoptilolite - Mordenite Property Report: Tenneco Minerals.

Ransome, F.L., 1923, Geology of the Oatman Gold District Arizona: United States Geological Survey, Bulletin 743.

Schrader, F.C., 1909, Mineral Deposits of the Cerbat Range, Black Mountains, and Grand Wash Cliffs, Mohave County, Arizona: United States Geological Survey, Bulletin 397.

Stevenson, W.G. and Associates, 1986, Geological Report on the Van Deeman Property, Black Mountains, Mohave County, Arizona: Consulting Geologists.

Tenneco Minerals, 1986, Various untitled reports and tables on McHeffy Butte Zeolites.

Welty, J.W., S.J. Reynolds, S.B. Keith, D.E. Gest, R.A. Trapp, and Ed DeWitt, 1985, Mine Index for Metallic Mineral Districts of Arizona: Arizona Bureau of Geology and Mineral Technology, Bulletin 196.

Williams, H., 1986, The Mockingbird Area Brief Report: Independent Miner. Williams, H., 1987, Brief Report on the Mockingbird WSA: Private Miner.

Wilson, E.D., J.B. Cunningham, and G.G. Butler, 1967, Arizona Lode Gold Mines and Gold Mining: Arizona Bureau of Mines, Bulletin 137.

Vegetation

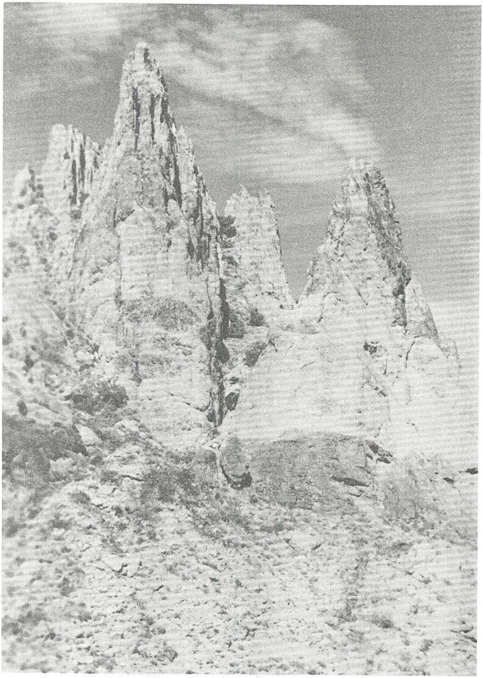
Brown, D.E., C.H. Lowe, and C.P. Pase, 1979, A Digitized Classification System for Biotic Communities of North America, With Community (series) andAssociation Examples for the Southwest: J. Arizona, Academy of Science,Suppl. 1.

Lehr, J.H., 1978, A Catalogue of the Flora of Arizona: Desert Botanical Garden, Phoenix, Arizona.

Wildlife Management

Bureau of Land Management, 1977, Black Mountains Unit Resource Analysis: Kingman Resource Area, Kingman, Arizona.

Bureau of Land Management, 1972, Cerbat Mountain Planning Unit Resource Analysis: Kingman Resource Area, Kingman, Arizona.



Rock formations found in the eastern Black Mountains — Mount Nutt WSA.

INDEX

- Alternatives, Description of
  - All Wilderness 4
  - No Wilderness/No Action 4
  - Proposed Action 4
- Cultural Resources 3
- Desert Bighorn Sheep 15
- Desert Tortoise 112,116
- Economic Impact 4
- Interdisciplinary Team 179
- Livestock Operations 3
- Mineral and Energy Resources 3
- Motorized Recreation 3
- Protected Plant Species 75
- Recreation 3
- Scoping 1
- Water Quality 4
- Wilderness Review Process 1
- Wilderness Study Areas
  - Van Deeman 9,69,124
  - Mockingbird 13,70,127
  - Black Mountains North 15,77,130
  - Burns Spring 19,80,134
  - Mount Tipton 22,85,140
  - Grapevine Wash 27,89,145
  - Grand Wash Cliffs 27,91,148
  - Mount Davis 31,95,151
  - Mount Nutt 32,97,153
  - Warm Springs 40,103,161
  - South Bradshaws East 46,110,167
  - Sierra Estrella 46,111,169
  - Ragged Top 49,115,171
  - Apache Box 51,119,174
  - Hoverrocker 51,120,175

Crucial desert tortoise habitat is found in the Ragged Top and Sierra Estrella WSAs.

☆ U.S. GOVERNMENT PRINTING OFFICE: 1987— 7 8 1 - 4 8 8 / 6 2 0 6 9

DATE DUE

GAYLORD PRINTED IN U.S.A.

BLM LIBRARY
SC-324A, BLDG. 50
DENVER FEDERAL CENTER
P. O. BOX 25047
DENVER, CO 80225-0047

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
2015 W. Deer Valley Road
Phoenix, Arizona 85027
Return if not delivered in 10 days
OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF THE INTERIOR
INT 415